

# **Energy Contractors Price-Anderson Group**

**[Amentum  
Battelle Memorial Institute  
Bechtel Power Corporation  
BWX Technologies, Inc.  
Centrus Energy Corp.  
Fluor Corporation  
GE Hitachi Nuclear Energy Americas LLC  
Honeywell International Inc.  
Huntington Ingalls Industries, Inc.  
Jacobs Technology Inc.  
Westinghouse Electric Company]**

**Response to  
U.S. Department of Energy  
Notice of Inquiry  
on Preparation of  
Report to Congress on  
The Price-Anderson Act**

**86 Fed. Reg. 40032 (July 26, 2021)  
& 86 Fed. Reg. 45714 (Aug. 16, 2021)**

**October 25, 2021**

## I. Introduction

The *ad hoc* Energy Contractors Price-Anderson Group is submitting the comments and recommendations herein in response to the U.S. Department of Energy (DOE or the Department) Federal Register "Notice of Inquiry on Preparation of Report to Congress on the Price-Anderson Act" of July 26, 2021 (Notice).<sup>1</sup> Such Notice requested public comments concerning the continuation or modification of the provisions of the Price-Anderson Act (Price-Anderson, the Act or PAA). The Notice indicated these comments will assist the Department in preparation of a report on the Act to be submitted to Congress by December 31, 2021, as required by Section 170p of the Atomic Energy Act of 1954, as amended (AEA).

The *ad hoc* Energy Contractors Price-Anderson Group (the Group) is composed of:

- Amentum
- Battelle Memorial Institute
- Bechtel Power Corporation
- BWX Technologies, Inc.
- Centrus Energy Corp.
- Fluor Corporation
- GE Hitachi Nuclear Energy Americas LLC
- Honeywell International Inc.
- Huntington Ingalls Industries, Inc.
- Jacobs Technology Inc.
- Westinghouse Electric Company

Each member of the Group has a vital interest in continuation of the nuclear hazards liability coverage provided by the PAA, as each member presently holds a DOE prime contract, subcontract or other arrangement for which they are presently indemnified under the Act; and, each member anticipates pursuing and performing future DOE prime contracts, subcontracts or other arrangements which qualify for indemnification under the Act.

While the Federal Government's own nuclear activities, which usually are carried out by contractors, have had a good safety record, the possibility of a serious accident resulting in damages to the public unfortunately cannot be eliminated totally. Price-Anderson provides an assured and exemplary system of protection for the public in case that unlikely event ever happens. Price-Anderson also encourages private sector participation in nuclear development. Without the Price-Anderson system's indemnification and limitation on liability, the private sector, including members of the Group, would be extremely reluctant to do even vital nuclear business with DOE. While the risk of a nuclear incident involving a DOE facility or other contract activity is small, the potential liability for third-party damages is simply too great for most contractors to be able to risk without the DOE's indemnification under the Act.

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<sup>1</sup>86 Fed. Reg. 40032. At the request of others, DOE on August 16, 2021 granted a sixty-day extension to October 25, 2021 for responses to the Notice. 86 Fed. Reg. 45714 (Aug. 16, 2021).

The Price-Anderson indemnity system should be continued in substantially its present form beyond December 31, 2025 to ensure protection of the public and in furtherance of DOE's statutory missions, with participation by private parties, in research and development, materials production, environmental restoration and waste management, defense, and other nuclear fields. In its 1983 and 1999 Reports to Congress,<sup>2</sup> the Department previously reached the conclusions:

- that the unique umbrella protection afforded by Price-Anderson continued to be “indispensable” and “essential;”
- that cessation of the contract indemnity system would not be in the public interest;
- that DOE indemnification “...provides proper protection for members of the public...” that might be affected by DOE’s nuclear activities;
- that it is “cost-effective;”
- that “...there are no satisfactory alternatives...;” and,
- that the Act “...minimizes protracted litigation...”

DOE should reach and communicate the same conclusions in its new Report to be submitted to Congress later this year.

In the course of final consideration of the last extension during the 109<sup>th</sup> Congress in 2005, four Congressional Committees with oversight of DOE's nuclear activities (Senate Energy and Environment, and House Energy and Science) supported renewal of the Department's Price-Anderson indemnification authority. (In the 107<sup>th</sup> and 108<sup>th</sup> Congresses, both the Senate and House Armed Services Committees included two-year extensions of Price-Anderson’s DOE indemnification authority in both the FY2003<sup>3</sup> and FY2005<sup>4</sup> Defense Authorization Acts.)

In 2005, the Senate Energy and Natural Resources Committee reported:

Reauthorization of the liability and indemnification provisions of the Price-Anderson Act is critical for protection of consumers as well as stability in the industry.<sup>5</sup>

Protection of the public has been the principal purpose of the Price-Anderson Act since its adoption in 1957. The statutory scheme has been intended to ensure the availability to the public of adequate funds in the unlikely event of a nuclear accident.

In 1987, the Senate Energy and Natural Resources Committee further summarized the need for Price-Anderson as follows:

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<sup>2</sup>DOE, *Report to Congress on the Price-Anderson Act* at 10-13 (1999) [hereinafter cited as 1999 DOE Report]; *The Price-Anderson Act - Report to Congress as Required by Section 170p of the Atomic Energy Act of 1954, as Amended*, at 3-4 (Aug. 1, 1983) [hereinafter cited as 1983 DOE Report].

<sup>3</sup>Pub. L. No. 107-314 of Dec. 2, 2002, §3171.

<sup>4</sup>Pub. L. No. 108-375 of Oct. 28, 2004, §3141.

<sup>5</sup>S. Rept. 109-78, 109<sup>th</sup> Cong., 1<sup>st</sup> Sess at 8.

In general, failure to extend the Price-Anderson Act would result in substantially less protection for the public in the event of a nuclear incident. In the absence of the Act, compensation for victims of a nuclear incident would be less predictable, less timely, and potentially inadequate compared to the compensation that would be available under the current Price-Anderson system.<sup>6</sup>

Other benefits to the public include such features as emergency assistance payments, consolidation and prioritization of claims in one Federal court, channeling of liability through the "omnibus" feature (permitting a more unified and efficient approach to processing and settlement of claims), and waivers of certain defenses in the event of a large accident (*i.e.*, an "extraordinary nuclear occurrence" (ENO), as discussed in answer to Question 15, *infra*) (providing a type of "no-fault" coverage). If a large accident were to happen, Congress recognized in 1957 (and again at the time of the 1988 Amendments) that a private entity (such as a DOE prime contractor or subcontractor) probably could not bear the costs alone. The entity could be forced into bankruptcy, leaving injured claimants without compensation.<sup>7</sup> Price-Anderson was seen as a means of preventing this from happening by providing "a comprehensive, compensation-oriented system of liability insurance for Department of Energy contractors and Nuclear Regulatory Commission licensees operating nuclear facilities."<sup>8</sup>

Another Congressional purpose for the Act, recognized in 1957 and since that time, and which remains even more valid today, was to encourage private sector participation in nuclear technology development. Without the Price-Anderson system's indemnification and limitation on liability, private suppliers would be extremely reluctant to do nuclear business with DOE. This is largely because private insurance, even if available for some risks, would not protect against all nuclear hazards, especially when they involve work at older Government facilities (part or all of which may be classified for reasons of national security), and currently is limited to \$450 million for nuclear power plants. (Even if that limited amount of private insurance were available for some DOE nuclear activities, it is far more cost effective for the Government to continue to self-insure.)

There is no evidence that the availability of nuclear liability protection has contributed to any lack of care among contractors. By contrast, the availability of indemnification has ensured that DOE can secure the services of leading U.S. contractors, and avoid having to rely only on Government employees or less responsible, less competent, "judgment-proof" contractors (*e.g.*, entities which

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<sup>6</sup>S. Rept. No. 100-70, Calendar No. 166, 100th Cong., 1st Sess. (June 12, 1987) at 18; reprinted in [1988] U.S. Code Cong. & Ad. News 1424, 1426 [hereinafter cited as 1987 Senate Energy Committee Report]. See also S. Rept. 100-218, Calendar No. 435, 100th Cong., 1st Sess. at 4 (Nov. 12, 1987), reprinted in [1988] U.S. Code Cong. & Ad. News 1479 [1987 Senate Environment Committee Report]; H. Rept. 100-104, Part 1, 100th Cong., 1st Sess. 5-7 (May 21, 1987) [hereinafter cited as 1987 House Interior Committee Report]; H. Rept. 100-104, Part 2, 100th Cong., 1st Sess. 3 (Jul. 22, 1987) [hereinafter cited as 1987 House Science Committee Report]; H. Rept. 100-104, Part 3, 100th Cong., 1st Sess. 15, 17 (Jul. 22, 1987) [hereinafter cited as 1987 House Energy Committee Report] (noting the House Energy Committee viewed the need to extend the Act as "urgent" and that the impact of expiration "would be most severe" with respect to DOE).

<sup>7</sup>See, *e.g.*, S. Rept. No. 296, 85th Cong., 1st Sess. 15 (1957) [hereinafter cited as S. Rept. No. 296] reprinted in [1957] U.S. Code Cong. & Ad. News 1803, 1816-1817; H. Rept. No. 435, 85th Cong., 1st Sess. 15 (1957) [hereinafter cited as H. Rept. No. 435]; L.R. Rockett, *Financial Protection Against Nuclear Hazards: Thirty Years' Experience Under the Price-Anderson Act*, Legislative Drafting Research Fund of Columbia University at 57-58 (Jan. 19, 1984); 103 Cong. Rec. H9560 (daily ed. Jul. 1, 1957) (statement of Rep. Van Zandt).

<sup>8</sup>1987 Senate Energy Committee Report, *supra* note 6, at 14, 16-18, reprinted in [1988] U.S. Code Cong. & Ad. News 1426, 1428-1430 (also noting the need for extending the Price-Anderson Act then was essentially the same as in 1957, *i.e.*, the amount of private insurance available was insufficient and compensation to victims of a nuclear accident, in the absence of the Price-Anderson Act, therefore would be seriously limited).

lack adequate resources to make potential claimants whole). Enhanced criminal and civil penalty provisions were added in 1988 to further encourage DOE "contractor accountability" after Congress rejected any subrogation provision tied to such legally imprecise terms as "gross negligence" and "willful misconduct." Another attempt in the House of Representatives to add a "contractor accountability" provision was rejected when the final 2005 Amendments Act was adopted by the House and Senate. If the Price-Anderson Act were amended to add such exclusions, contractors would have to assume they essentially would have no nuclear hazards liability coverage as the risk profile is simply too high without Government indemnification. In the past, contractors have made clear that in such a scenario they would have to cease involvement with DOE projects. DOE, by regulation, by the contractual provisions it imposes on contractors, and/or by the degree of supervision it exercises over their activities, currently possesses adequate authority to encourage appropriate accountability on the part of its contractors. In addition to civil penalties, DOE long has had various other mechanisms to influence contractor behavior, including, among possible others, criminal penalties, fee reductions, non-renewals, debarments, terminations, and poor performance evaluations.

After over 60 years of U.S. Government-backed nuclear damage indemnification, private suppliers have maintained a large role in assisting the Government in its own nuclear activities without significant damage or injury to the public and with only two substantial settlements for nuclear damage in the combined amount of about \$453 million (about \$78 million at the Fernald Feed Material Production Center in 1989<sup>9</sup> and about \$375 million at Rocky Flats in 2017<sup>10</sup>). Compare these incurred costs to what DOE identified in 1999, as the anticipated \$30 million to \$120 million annual cost to privately insure against these risks (see response to Question 9, *infra*). Even unadjusted for inflation over the 28-year period between these two incidents, had DOE paid contractors to insure against nuclear risk, as opposed to being indemnified, DOE would have reimbursed contractors for somewhere between \$840 million to \$3.36 billion in insurance premiums. Furthermore, the insurance coverage, had it been obtained, may have been insufficient to cover the entirety of the Rocky Flats settlement (see the reference to coverage being 2% of \$9.4 billion in the response to Question 9, *infra*) resulting in further cost to DOE (*i.e.*, payment of the difference, subject to the availability of appropriations).

In other words, Price-Anderson contractor indemnification is a system that has worked well. A fundamental change in relevant circumstances since the original adoption of Price-Anderson in 1957 (other than the effects of passage through inflationary periods of time) has been the dramatic increase in the exposure of U.S. entities to tort liability litigation in the American legal system, most of which has occurred over the last 40-year period. This change has increased greatly the unpredictability of the probable dollar damages resulting from any major accident, whether it be nuclear or non-nuclear in nature. This makes a system such as Price-Anderson only more essential for the period beyond 2025.

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<sup>9</sup>*In re Fernald Litigation*, No. C-1-85-149 (S.D. Ohio Sept. 29, 1989) (opinion and order approving settlement and denying objections). The 1999 DOE Report, *supra* note 2, at 14, stated that DOE also paid \$20 million to settle *Day v. NLO, Inc.*, (No C-1-90-67) (S.D. Ohio Dec. 22, 1994), the separate lawsuit filed in 1990 by workers and frequent visitors of the Fernald facility.

<sup>10</sup>*Cook et al. v. Rockwell International Corp. et al.*, No.90-cv-00181-JLK (D. Colo.). See *Cook v. Rockwell Int'l Corp.*, 790 F.3d 1088 (10th Cir. 2015) (Gorsuch, C.J.) (unusually finding the Price-Anderson Act does not preempt "a state law nuisance claim when a nuclear incident is asserted but unproven"). Cf. *Matthews v. Centrus Energy Corp.*, No. 20-3885, slip op. at 12-13 (6<sup>th</sup> Cir. Oct. 6, 2021) (finding *Cook* to be "a unique (and inapposite) case" and that the Price-Anderson Act preempts state-law claims for liability arising from a nuclear incident).

## **II. Legislative History of Government Contractor Indemnification Under the Price-Anderson Act**

Attachment A is an updated version of the Legislative History of Government Contractor Indemnification Under the Price-Anderson Act submitted in connection with DOE's preparation of its 1999 Report to Congress. This update is intended to serve as a reference, since many issues that may arise during the next consideration of Price-Anderson Act reauthorization (including several raised in the DOE Notice) have been considered and acted upon by past Congresses. To the extent these issues were dealt with in the past, there is no need to revisit them again.

## **III. Responses to DOE List of Questions**

The DOE Notice contains a list of questions "...to spur consideration of the PAA in its operation and effect and facilitate public comment." Keeping in mind DOE's request that "...comments be directed to DOE and its activities as the NRC [U.S. Nuclear Regulatory Commission] is responsible for its own report to Congress on the PAA," the Group's responses to DOE's specific questions are as follows:

### **1. Should the DOE Price-Anderson indemnification be continued without modification?**

The DOE Price-Anderson indemnification authority should be continued after December 31, 2025. As indicated in more detail in response to Questions 2, 10, 13, 14, 21, 22 and 23, it is recommended that the DOE Report to Congress urge a few modifications or clarifications to improve the PAA further: Specifically, the \$500 million limit set in 2005 for nuclear incidents outside the United States should be increased to at least \$2 billion (Question 10), and made applicable in more circumstances (Questions 13 and 23). DOE's PAA authority should be made permanent (Question 14). Additionally, the Act's applicability to DOE cooperative agreements, Cooperative Research and Development Agreements (CRADAs) performed under the National Competitiveness Technology Transfer Act of 1989, Strategic Partnership Project Agreements, and grants should be clarified and confirmed (Question 22), and extended to automatically apply to activities funded by the National Aeronautics and Space Administration (NASA), the Department of Defense (DOD) (*e.g.*, for the Army Corps of Engineers Formerly Utilized Sites Remedial Action Program (FUSRAP)) and other agencies that involve a risk of "public liability" (Question 23).

### **2. Should the DOE Price-Anderson indemnification be eliminated or made discretionary with respect to all or specific DOE activities? If discretionary, what procedures and criteria should be used to determine which activities or categories of activities should receive indemnification?**

The DOE Price-Anderson indemnification should not be eliminated or made discretionary with respect to any DOE nuclear activities. The 1988 Amendments for the first time made DOE Price-Anderson coverage for the Department's contractors mandatory for all activities that involve risk

of "public liability."<sup>11</sup> This provision (first suggested in the 1957 Congressional hearings<sup>12</sup>) was added in order to make coverage apply in more situations, and to avoid requiring DOE to determine administratively whether a particular activity presented a "substantial" nuclear risk. DOE Price-Anderson indemnification should not return to being discretionary. In fact, the authority should be (i) broadened to cover more DOE contractual activities outside the United States (as discussed in response to Question 13), (ii) clarified as regards to DOE cooperative agreements, Cooperative Research and Development Agreements (CRADAs) performed under the National Competitiveness Technology Transfer Act of 1989, Strategic Partnership Project Agreements, and grants (Question 22), and (iii) extended to automatically apply to activities funded by NASA, DOD, and other agencies that involve a risk of "public liability" (Question 23).

Prior to the 1988 Amendments removing DOE discretion, DOE regulations permitted routine issuance of Price-Anderson indemnity only when it was determined by the Head of a Procuring Activity that there existed a risk of damage to persons or property due to the nuclear hazard of \$60 million or more.<sup>13</sup> Such a determination often was difficult for DOE to make from a political and public relations standpoint, with the result that both the general public and the particular contractor may have been subject to significant uninsured risk if that determination proved to have been overly optimistic. For example, DOE's discretion became a significant issue for the State of New Mexico in connection with the Waste Isolation Pilot Plant (WIPP) Project in the early 1980s. At the time, DOE stipulated that it then was the Department's "current intention" to include a Price-Anderson indemnity article in any WIPP operating contract, but DOE said it could not "...stipulate away its discretion in this regard."<sup>14</sup>

In 1987, the Senate Energy Committee indicated it felt that the protection afforded the public by the Price-Anderson Act was important enough to justify removing DOE's discretion which could otherwise result in the indemnification not being provided.<sup>15</sup> The House bill (H. R. 1414<sup>16</sup>) also eliminated the substantiality test, and required DOE to indemnify all contractors.<sup>17</sup>

### **3. Should the DOE Price-Anderson indemnification continue to provide omnibus coverage of all persons legally liable for nuclear damage, or should it be restricted to DOE contractors or to DOE contractors, subcontractors, and suppliers?**

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<sup>11</sup>Pub. L. No. 100-408, §4 (a)(1) (A); 102 Stat. 1068 (codified at 42 U.S.C. §2210 (d) (1) (A)).

<sup>12</sup>Appearing on behalf of the New York City Bar Association, Arthur W. Murphy said he thought the legislation should contain a direction to the Atomic Energy Commission (AEC) to indemnify Government contractors in any case in which financial responsibility would be required if the activity involved were licensed. Hearings Before the Joint Committee on Atomic Energy, 85th Cong., 1st Sess. 162-163 (1957) [hereinafter cited as 1957 Hearings]. He further said he thought that indemnity should be available for any activity carried on by contractors which were not of a type that might be carried on by a licensee, if the Commission thought there was a danger of a "substantial" accident. He added the AEC contractor provision should be mandatory, rather than permissive. *Id.* at 176. A similar statement was made by Dr. Lee L. Davenport, President, Sylvania-Corning Nuclear Corp. *Id.* at 250.

<sup>13</sup>See DOE Procurement Regulation 41 C.F.R. §9-10.5005(b) (1983), reprinted in 1983 DOE Report, *supra* note 2, at B-3.

<sup>14</sup>Supplemental Stipulated Agreement Resolving Certain State Off-Site Concerns Over WIPP, State of New Mexico, *ex rel. Bingaman v. DOE*, No. 81-0363 JB, at 5-6 (D.N.M., Dec. 29, 1982). See also Opinion of the DOE General Counsel on Application of the Price-Anderson Act to WIPP at 13-15 (Dec. 9, 1982).

<sup>15</sup>1987 Senate Energy Committee Report, *supra* note 6, at 19, reprinted in [1988] U.S. Code Cong. & Ad. News 1432.

<sup>16</sup>100th Cong., 1st Sess. (1987).

<sup>17</sup>1987 House Interior Committee Report, *supra* note 3, at 12-13. See also 1987 House Science Committee Report, *supra* note 6, at 9-10.

DOE Price-Anderson indemnification should continue to provide "omnibus" coverage for all persons legally liable for nuclear damage. Omnibus coverage has been a fundamental feature of the Act since 1957. The Price-Anderson system's "omnibus coverage" for "anyone liable"<sup>18</sup> (often referred to as "economic channeling" and also applicable to NRC-licensed nuclear power plant operators<sup>19</sup>) facilitates claims handling by eliminating the usual disputes among various parties potentially liable for an accident<sup>20</sup> (e.g., the prime contractor, its subcontractors, suppliers, vendors, architect-engineers, *etc.*). The Price-Anderson indemnification now covers "anyone liable," not just the entity with whom the indemnity agreement is executed. A typical DOE contractor-subcontractor relationship usually involves many different companies. Before the passage of Price-Anderson in 1957, indemnity agreements had to be negotiated at each tier of the contractor structure. If construction and development of several nuclear facilities occurred, the number of contractors and subcontractors that faced possible risks due to a nuclear incident could reach into the "thousands."<sup>21</sup> The associated administrative burden, time commitment and cost to DOE and its prime contractors in negotiating indemnity agreements with that number of subcontractors would be unduly onerous, cause significant delay and uncertainty in placing and performing contracts for its projects, and distract DOE from its performance of other, more important, duties.

Most significantly, the different scopes of coverage caused by contract negotiations at each tier could result in haphazard protection of the public and of suppliers and subcontractors. Price-Anderson corrected this deficiency, ensuring the availability of funds to cover damages and creating a uniform level of coverage among contractors, subcontractors, suppliers and anyone else who might be liable.<sup>22</sup> Because of its omnibus feature, Price-Anderson coverage is easier to administer contractually, and therefore presumably more cost-effective for and in the best interest of the Government.

Without omnibus coverage in the case of a contractor with limited assets (or, indeed any contractor if the nuclear damages were sufficiently high), funds would likely not be readily available for claimants. Furthermore, any resultant bankruptcy in the chain of persons liable effectively would destroy the "omnibus" feature of the present system, complicate the ability of victims to secure

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<sup>18</sup>See AEA, Section 11(t), 42 U.S.C. §2014t (defining "person indemnified"). See also S. Rept. No. 1677, 87th Cong., 2d Sess. (1962), reprinted in [1962] U.S. Code Cong. & Ad. News 2207-2222.

<sup>19</sup> Illustrative of its effectiveness of the "omnibus" feature of Price-Anderson is that fact that, following the 1979 Three Mile Island accident, one law firm was able to represent all the defendants, including the nuclear power plant operator, designer and manufacturer. See, e.g., *In re Three Mile Island Litigation Cases Consolidated II (TMI II)*, 940 F.2d 832, 859 (3d Cir. 1991), *cert. den.*, 503 U.S. 906 (1992).

<sup>20</sup>The breadth of Price-Anderson's "omnibus" coverage is illustrated by an often-quoted example in the legislative history of the Act (in fact, cited again in the 1997 DOE Notice, 62 Fed. Reg. 68272, 68274, note 18 (Dec. 31, 1997)):

In the [1957] hearings, the question of protecting the public was raised where some unusual incident, such as negligence in maintaining an airplane motor, should cause an airplane to crash into a reactor and thereby cause damage to the public. Under this bill the public is protected and the airplane company can also take advantage of the indemnification and other proceedings. S. Rep. No. 296, 85th Cong., 1st Sess., [1957] U.S. Code Cong. & Ad. News 1818.

<sup>21</sup>Operations Under Indemnity Provisions of the Atomic Energy Act of 1954: Hearings Before the Subcomm. on Research, Development, and Radiation of the Joint Committee on Atomic Energy, 87th Cong., 1st Sess. 49 (1961); 103 Cong. Rec. S13724 (daily ed. Aug. 16, 1957) (statement by Sen. Anderson); 1983 DOE Report, *supra* note 2, at 1 (there then were over 100 DOE contracts containing Price-Anderson protecting about 50 prime contractors and 70,000 subcontractors and suppliers).

<sup>22</sup>See, e.g., Government Indemnity for Private Licensees and AEC Contractors Against Reactor Hazards: Hearings Before the JCAE, 84th Cong., 2d Sess. 76-85 (1956).

compensation, and run afoul of one of the Act's principal purposes, *i.e.*, encouragement of settlements by eliminating the likelihood of crossclaims among defendants.

Finally, if the DOE indemnification did not extend beyond DOE contractors, subcontractors and suppliers, many of the companies otherwise providing goods or services to these indemnified suppliers in support of DOE nuclear projects would likely decline to provide such goods and services so as to avoid potential nuclear liability risk exposure.

**4. If the DOE indemnification were not available for all or specified DOE activities, are there acceptable alternatives? Possible alternatives might include Public Law 85-804, section 162 of the AEA, general contract indemnity, no indemnity, or private insurance. To the extent possible in discussing alternatives, compare each alternative to the DOE Price-Anderson indemnification, including operation, cost, coverage, risk, and protection of potential claimants.**

If the DOE Price-Anderson indemnification were not available for all or specified DOE activities, there are no equivalent alternatives for protecting the public or covering contractors, subcontractors and suppliers. General discretionary agency authority to indemnify contractors preceded the Act, and presumably would continue to exist in the absence of Price-Anderson.<sup>23</sup> However, specific inclusion of contractors in the 1957 Act was an attempt to correct the deficiencies of contractor indemnification as it began under the Manhattan Engineer District of the U.S. Department of War in the early 1940s, while furthering the broader goals and purposes of Price-Anderson, especially protection of the public.<sup>24</sup> As such, statutory contractor indemnification under Price-Anderson was seen at the time as desirable for several reasons that are equally valid today.

Contractor coverage prior to the Price-Anderson Act often was inconsistent, subject to individual contract idiosyncrasies, inapplicable to subcontractors, and subject to the availability of appropriated funds.<sup>25</sup> As a result, the public and contractors potentially could be left unprotected, thus discouraging participation by contractors in these nuclear projects. Price-Anderson was intended to resolve this problem by providing and guaranteeing compensation up to the liability ceiling.<sup>26</sup>

Price-Anderson was carefully designed to correct many of the earlier deficiencies and to provide a uniform system of public protection. None of the alternatives listed in the question provide Price-Anderson's unique features to protect potential claimants, such as emergency assistance payments, consolidation and prioritization of claims in one court, channeling of liability through the

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<sup>23</sup>*See id.*, at 76-84; 1957 Hearings, *supra* note 12, at 149-51, 176. Note, however, that a provision added in 1988 provides that, beginning 60 days after August 20, 1988, §170d(l) (A) shall be "the exclusive means" of nuclear hazards indemnification for DOE contractors, including activities conducted under a contract containing Public Law 85-804 indemnification entered into during the 1987-1988 lapse. 42 U.S.C. §2210 (d) (1) (B) (i) (I).

<sup>24</sup>*See, e.g.*, 1957 Hearings, *supra* note 12, at 176.

<sup>25</sup>In the absence of Price-Anderson, the Anti-Deficiency Act, 31 U.S.C. §1341, usually would apply to DOE nuclear contracts. That statute prohibits contracting officers from incurring any financial obligations over and above those authorized for a particular year and in advance by Congress. *See also* Adequacy of Appropriations Act, 41 U.S.C. §11.

<sup>26</sup>DOE now is authorized under Section 170j of the Price-Anderson Act to enter into contracts in advance of appropriations. Also, DOE may incur obligations without regard to any limitation on the availability of funds. This feature allows DOE to act quickly, without prior consent from Congress for each contractor activity, as pointed out in 1983 DOE Report, *supra* note 2, at 2.

"omnibus" feature (permitting a more unified and efficient approach to providing coverage and for processing and settlement of claims), and waivers of certain defenses in the event of a large accident (providing a type of "no-fault" coverage). Also, because of its "omnibus" feature, Price-Anderson coverage is easier to administer contractually; and, therefore, presumably more cost effective for and in the best interest of the Government.

As the 1997 DOE Notice indicated,<sup>27</sup> both Public Law 85-804<sup>28</sup> and Section 162 of the AEA<sup>29</sup> provide for waivers of certain statutory provisions (such as the Anti-Deficiency Act) relating to contracts under certain conditions. As discussed in more detail, *infra*, both were used to indemnify the Department's contractors in very select circumstances in the past, but neither has the above listed advantages of Price-Anderson.

#### Public Law 85-804

The Senate Energy Committee and House Energy Committee in 1987 pointed out Public Law 85-804 does not provide the same public protection features of the Price-Anderson Act.<sup>30</sup> Under Public Law 85-804, victims could sue for damages under State tort law, but contractors would not have to waive their defenses. Victims also would not be able to benefit from the other important features of the Price-Anderson Act listed *supra*. Public Law 85-804 indemnity, furthermore, usually applies only to the prime contractor, with applicability to subcontractors and suppliers having to be negotiated individually or, where the agency head delegates authority to the cognizant Contracting Officer to indemnify subcontractors, being subject to the Contracting Officer's discretion, resulting in the same concerns faced by prime contractors, as discussed in response to Question 2, *supra*.

Public Law 85-804 does not provide for consolidation of all cases in a single Federal court, does not provide for waiver of defenses in the event of a large accident ("extraordinary nuclear occurrence" (ENO), as discussed in answer to Question 15, *infra*), does not provide "omnibus" coverage (*i.e.*, does not automatically apply to subcontractors, suppliers or others who may be liable), requires the Secretary of Energy to find coverage "would facilitate the national defense," and is discretionary on a case-by-case basis.

In contrast to automatic Price-Anderson indemnification, the discretionary nature of Public Law 85-804 alone could result in many existing DOE contractors (to include the entities which make up the Group) refusing to bid for future work. Public Law 85-804, as implemented at Federal Acquisition Regulation Part 50,<sup>31</sup> permits the submission of indemnification requests only after contract award. The request being made post-award, combined with the discretionary nature of the law, means contractors would be put in a position of either making conditional offers or risking contract performance obligations without any guarantee of indemnification. If DOE, applying its

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<sup>27</sup>62 Fed. Reg. at 68273, n.11.

<sup>28</sup>Act of Aug. 28, 1958, Pub. L. No. 85-804, 72 Stat. 972, 50 U.S.C. §§1431-1435.

<sup>29</sup>Section 162 (codified at 42 U.S.C. §2202) provides:

The President may, in advance, exempt any specific action of the Commission [now Department of Energy] in a particular matter from the provisions of law relating to contracts whenever he determines that such action is essential in the interest of the common defense and security.

<sup>30</sup>1987 Senate Energy Committee Report, *supra* note 6, at 17, reprinted in [1988] U.S. Code Cong. & Ad. News 1429; 1987 House Energy Committee Report, *supra* note 6, at 17.

<sup>31</sup>48 C.F.R. Part 50.

discretion, were to decline a grant of indemnity, the contractor would be left with the choice between performing work with significant uninsurable risk or refusing to perform its government contract. Neither choice is palatable; and, would most likely result in “no bid” decisions on DOE procurements.

Public Law 85-804 enables agencies, such as DOD and DOE, which exercise "functions in connection with national defense" to enter into indemnity agreements for damages arising from contractors' handling of unusually hazardous or nuclear risks. The Department used Public Law 85-804 during the time Price-Anderson authority lapsed between 1987 and 1988.<sup>32</sup> Beyond both that lapse and DOE's grant of Public Law 85-804 indemnity for certain weapons program scope, DOE has used Public Law 85-804 indemnification in only a very few cases for certain "high priority national security work" outside the United States. These situations generally have been limited to “emergency work abroad involving nuclear weapons, real or suspected, and nuclear materials which can be readily utilized in the production of nuclear weapons without substantial further effort,” as well as “nonproliferation activities abroad involving weapons-usable material....”<sup>33</sup>

#### Section 162 of the AEA

Over the years, only a few contractors of DOE and its predecessor agencies (AEC and the Energy Research and Development Administration) have received special indemnity protection by the President's use of Section 162 of the AEA.<sup>34</sup> Section 162 enables the President to approve DOE contracts containing "general indemnities" not subject to the availability of appropriated funds. In other words, Section 162 has been used on only a few occasions to provide exemptions to the Anti-Deficiency Act. As in the case of Public Law 85-804, however, Section 162 indemnification also does not provide the important public protection features of the Price-Anderson Act, such as the waiver of defenses, emergency assistance payments, consolidation and prioritization of claims, a minimum statute of limitations, or the "omnibus" feature that includes subcontractors and suppliers.

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<sup>32</sup>A lapse in Price-Anderson authority for new or extended nuclear hazards liability coverage lasted for just over a year from August 1, 1987 to August 20, 1988. During that time, five expiring contracts were extended with Public Law 85-804 indemnification as an interim measure. At least one major DOE contractor, however, refused to do nuclear work for DOE with only Public Law 85-804 indemnification. On October 22, 1987, that company informed DOE it would not accept a contract for the Dynamic Isotope Power Systems project relying solely on Public Law 85-804 for nuclear indemnification coverage. Chairman Johnston later referred to this fact during the Senate floor debate on Price-Anderson on March 16, 1988. *See* 134 Cong. Rec. S2302 (daily ed. Mar. 16, 1988).

<sup>33</sup>*See, e.g.*, Memorandum for the Vice President from Secretary of Energy O'Leary, Indemnification of Department of Energy Contractors Under Public Law 85-804 (Dec. 12, 1994); and Letter to Rep. Dingell from Secretary of Energy Abraham (Sept. 5, 2001). As examples, the Secretary of Energy granted interim indemnification to the Sandia Corporation and its then parent Martin Marietta Corporation for high-risk national security work conducted by Sandia National Laboratories and also to Martin Marietta Energy Systems, Inc. for non-proliferation activities abroad involving weapons usable material (Project Sapphire). Public Law 85-804 indemnification also was granted for certain remediation work following the Fukushima Nuclear Power Plant accident in Japan.

<sup>34</sup>Action was taken by seven different Presidents under Section 162 (or its predecessor, Section 12(b) of the AEA of 1946) in connection with five different contracts that contained indemnity provisions without qualification as to the availability of appropriations. The most recent use of Section 162 was by President Reagan on January 19, 1988 in connection with the last five-year extension (through September 30, 1993) of the AT&T/Sandia contract. All contracts subject to a Section 162 Presidential exemption have expired.

## General Contract Authority

As the 1997 DOE Notice itself observed,<sup>35</sup> the Anti-Deficiency Act would apply to any indemnity provided under the Department's "general contract authority."<sup>36</sup> Again, any general contract authority indemnification would not provide the above listed public protection features of Price-Anderson.

## No Indemnity or Private Insurance

The alternative of no indemnity is not acceptable, as discussed in the Group's responses to Questions 5 to 8. Private insurance (even if it were to become available for some of the nuclear risks now covered by Price-Anderson (insurance would not cover all such risks)) also is not acceptable, as insurance would provide less protection for the general population, would not provide sufficient risk coverage for many contractors, and ultimately would be more expensive to DOE than Price-Anderson (as discussed in response to Question 9, *infra*).

### **5. To what extent, if any, would the elimination of the DOE Price-Anderson indemnification affect the ability of DOE to perform its various missions? Explain your reasons for believing that performance of all or specific activities would or would not be affected.**

Because much of the private sector (including members of the Group) would be extremely reluctant to participate in DOE projects without the third-party nuclear liability protection afforded by the Act (see Question 6, *infra*) elimination of the Price-Anderson indemnification would adversely affect the ability of DOE to perform its various missions. This is because it would make it more difficult to attract well-capitalized, competent contractors, subcontractors and suppliers. As an alternative to competent contractors, using Federal employees would result in less protection for the public, because liability for their actions would be governed by the Federal Tort Claims Act (FTCA),<sup>37</sup> which greatly limits recoveries against the Government for its own torts; and, using smaller, less experienced "judgment proof" contractors that might be willing to do the work would diminish protection of the public, and limit DOE to a pool of less responsible, less competent and/or less experienced contractors.

Private contractor participation in the U.S. nuclear market, both on DOE projects and commercial nuclear plants, each made possible by the Act's protection, is good for the U.S. economy and allows U.S. companies to continue to develop, maintain and deliver nuclear goods and services domestically and abroad (consistent with U.S. non-proliferation requirements, export controls and other mandated protections), all of which are in the interest of the U.S. Government.

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<sup>35</sup>62 Fed. Reg. at 68273, n.11.

<sup>36</sup>48 C. F. R. §950. 7101.

<sup>37</sup>28 U.S.C. §§2671 *et seq.* See *Dalehite v. United States*, 346 U.S. 15 (1953) (describing the legislative history of the FTCA, and the Federal Government's lack of liability for the Texas City disaster thereunder). See also 1987 Senate Energy Committee Report, *supra* note 6, at 17-18, reprinted in [1988] U.S. Code Cong. & Ad. News 1429-1430 (describing the legal obstacles to recovery of damages under the FTCA). In 1987, the U.S. Department of Justice objected to a provision that would have treated the Secretary of Energy as a government contractor for purposes of determining the Federal Government's potential tort liability for certain activities relating to storage or disposal of radioactive waste. *Id.* at 59-64; 1987 House Energy Committee Report, *supra* note 3, at 33-36. The objection was this would have exposed the Government to more potential liability than under the FTCA's limited waiver of sovereign immunity.

**6. To what extent, if any, would the elimination of the DOE Price-Anderson indemnification affect the willingness of existing or potential contractors to perform activities for DOE? Explain your reasons for believing that willingness to undertake all or specific activities would or would not be affected.**

The elimination of the DOE Price-Anderson indemnification would adversely affect the willingness of existing or potential contractors to perform activities for DOE, and this negative impact cannot be overstated. Price-Anderson was intended to eliminate uncertainty surrounding nuclear liability concerns and to encourage the private sector to participate in nuclear development, including U.S. Government activities. DOE contractors strenuously reiterated the same point prior to the 1988 and 2005 extensions, saying they would decline to work for DOE without nuclear liability protection of the type afforded by the Price-Anderson Act. That sentiment remains unchanged today. As discussed *supra*, in the absence of these contractors, alternatives would be using Federal employees or possibly less responsible, less competent, and/or less experienced contractors (with little or no assets).<sup>38</sup>

As DOE indicated in its 1983 and 1999 Reports to Congress, there would be extreme reluctance on the part of existing and potential contractors to do any nuclear business with the Department if DOE's authority to enter into Price-Anderson indemnity agreements were discontinued.<sup>39</sup> The members of the Group believe that even the term "extreme reluctance" understates the concern. Nuclear liability is a potential "break-the-bank" risk; and, as such, is either uninsurable, grossly under-insurable, or insurable at an immense cost (as discussed in response to Question 9, *infra*). It is reasonable to expect that many contractors simply cannot or will not accept this risk. This is especially true for contractors whose nuclear activities for DOE are only a small percentage of their overall businesses. Thus, loss of Price-Anderson protection would lessen competition, inhibiting the Government's ability to engage in competitive procurements, and otherwise increase costs to and not be in the best interest of the Government. Indemnification under the Price-Anderson Act is the only realistic solution.

Finally, there is an even greater concern that elimination of the Price-Anderson indemnification ultimately would result in a greater potential for a nuclear incident, if, after weighing the risks, responsible entities were to elect not to bid on DOE projects, such that future contracting would be with entities which lack the necessary capabilities, experience, resources and corporate responsibility to perform the contract scope with the degree of nuclear safety and quality achieved by DOE's present pool of contractors.

**7. To what extent, if any, would the elimination of the DOE Price-Anderson indemnification affect the ability of DOE contractors to obtain goods and services from subcontractors and suppliers? Explain your reasons for believing that the availability of goods and services for all or specific DOE activities would or would not be affected.**

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<sup>38</sup>The 1987 Senate Energy Committee Report recognized the possibility some DOE contractors would discontinue work in DOE's nuclear activities altogether if the Price-Anderson system were not extended. 1987 Senate Energy Committee Report, *supra* note 3, at 17, 34-35, reprinted in [1988] U.S. Code Cong. & Ad. News 1429, 1446-1447. In fact, the Committee noted, in that event, Federal nuclear activities would continue, but they would likely be carried out by Federal employees or possibly by less responsible, less competent contractors. If DOE's nuclear activities were to be carried out by Federal employees, victims of a nuclear accident could only attempt to obtain compensation by filing suit against the Government under the FTCA. *Id.*

<sup>39</sup>*See, e.g.*, 1999 DOE Report, *supra*, note 2 at 1 and 10.

The elimination of the DOE Price-Anderson indemnification would adversely affect the ability of DOE contractors to obtain goods and services from subcontractors and suppliers. As DOE indicated in its 1983 and 1999 Reports to Congress, if DOE's authority to enter into Price-Anderson indemnity agreements were discontinued, the extreme reluctance on the part of existing and potential contractors to do any nuclear business with the Department also would extend down tier lines to subcontractors and equipment suppliers, including both large and small businesses throughout the country, all of which could be liable for a serious accident but, absent Price-Anderson indemnification, would not have the financial resources to cover that liability or the substantial defense costs associated with such litigation. The lack of this protection would significantly winnow down the group of lower tier subcontractors and suppliers willing to support such work – including small businesses and/or minority-owned businesses. Again, this would lessen competition, inhibit the Government's goal of supporting a diverse group of suppliers, and otherwise increase costs to the Government for all DOE nuclear activities. Furthermore, DOE noted in its 1999 Report to Congress that nonprofit contractors in particular are not in a position to protect themselves against the financial implications of a nuclear accident, and that several said that, without indemnification, they would have to discontinue work for DOE.<sup>40</sup>

As with the response to Question 6, *supra*, there is even greater concern that elimination of the Price-Anderson indemnification ultimately would result in a greater potential for a nuclear incident if, after weighing the risks, responsible subcontracting entities were to elect not to bid on DOE projects, such that future subcontracting would be with entities which lack the necessary capabilities, experience, resources and corporate responsibility to perform the subcontract scope with the degree of nuclear safety and quality achieved by DOE's present pool of subcontractors.

**8. To what extent, if any, would the elimination of the DOE Price-Anderson indemnification affect the ability of claimants to receive compensation for nuclear damage resulting from a DOE activity? Explain your reasons for believing the ability of claimants to be compensated for nuclear damage resulting from all or specific DOE activities would or would not be affected.**

The elimination of the DOE Price-Anderson indemnification would adversely affect the ability of claimants to receive compensation for nuclear damage resulting from any DOE activity.<sup>41</sup> Price-Anderson, as previously noted, has a number of unique features designed to expedite claims handling. Again, these include emergency assistance payments, consolidation and prioritization of claims in one court, channeling of liability through the "omnibus" feature (permitting a more unified and efficient approach to providing coverage and for processing and settlement of claims), waivers of certain defenses in the event of a large accident ("extraordinary nuclear occurrence") (providing a type of "no-fault" coverage), and an assured source of funds.

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<sup>40</sup>1999 DOE Report, *supra*, note 2 at 10.

<sup>41</sup>Aside from the administrative and legal advantages for claimants under the Price-Anderson framework as compared to the Federal or state law remedies that otherwise might apply, there is also a more fundamental point that, while thankfully there have been no catastrophic nuclear incidents at DOE facilities, the potential damages from such an incident are beyond what any private sector contractor or even group of contractors can afford, making one or more bankruptcies the likely outcome of such an incident, which would leave claimants with no or little remedy for injuries or damage resulting from the incident.

**9. What is the existing and the potential availability of private insurance to cover liability for nuclear damage resulting from DOE activities? What would be the cost and the coverage of such insurance? To what extent, if any, would the availability, cost, and coverage be dependent on the type of activity involved? To what extent, if any, would the availability, cost, and coverage be dependent on whether the activity was a new activity or an existing activity? If the DOE Price-Anderson indemnification were not available, how would that affect the availability of insurance? Should DOE require contractors to obtain private insurance if the DOE Price-Anderson indemnification were not available?**

To date, such private insurance has not been available. Even if it were to become available, private nuclear liability insurance would be an impractical, more expensive and insufficient substitute for Price-Anderson indemnification of DOE contractors. These conclusions are based on Group members' experiences, and confirmed by information provided by American Nuclear Insurers (ANI), which is the sole source of third-party nuclear liability insurance in the United States. Attachment B to these comments is an updated letter concerning the availability of private insurance for DOE contractors sent by ANI on August 10, 2021.

In the current letter, ANI indicates it has not changed its prior positions with respect to insurance for DOE facilities outlined in two letters, one dated January 21, 1998, addressed to Omer F. Brown, II (counsel to the former Energy Contractors Price-Anderson Group), and another dated August 27, 2001, addressed to The Honorable Joe Barton, then Chairman of the House of Representatives Subcommittee on Energy and Air Quality.<sup>42</sup> In the current letter, ANI has indicated “ANI has routinely declined requests to provide nuclear liability insurance coverage for DOE contractors [and] ... it is unlikely that ANI would agree to provide nuclear liability insurance covering DOE facilities that have established and ongoing operations.”

After citing potential liability issues about DOE facilities, the current ANI letter concludes, “It would, therefore, be imprudent for ANI to offer coverage for existing DOE facilities and, thus, subject our member insurance companies to liabilities originating from past DOE operations.” At the same time, the current ANI letter states, “Notwithstanding the above, ANI remains open to writing coverage for a *new* [emphasis added] DOE facility subject to the same underwriting review and criteria that are utilized for commercial nuclear operations. Because each coverage request must be individually evaluated for insuring purposes, it is impossible for ANI to guarantee that such coverage would be written for a particular *new* [emphasis added] DOE facility or, if written, what liability limits would be available.”

Even for a new DOE facility, such evaluation presumably would take considerable time and resources, the results of which cannot be predicted. In addition, any insurance ANI might be willing to write presumably would be subject to cancellation or non-renewal for causes stated. Further, ANI’s existing nuclear liability insurance policies contain a number of exclusions. For

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<sup>42</sup>The January 21, 1998 letter was attached to DOE’s 1999 Report to Congress, *supra* note 2, Att. B. Earlier, during consideration of the 1988 extension of the Price-Anderson Act, it was suggested that DOE contractors should be required to maintain private insurance to protect themselves against claims from accidents resulting from “gross negligence.” In response to a March 30, 1987 inquiry from Senate Energy Committee Chairman Johnston, the nuclear insurance pools on April 3, 1987 wrote that a private insurance market for government contractor activities was not likely to arise and the possibility of developing a market restricted to covering “gross negligence” or “willful misconduct” was “very remote indeed.” See April 3, 1987 letter from R.A. Schmalz, Esq. to Chairman Johnston.

example, unlike DOE Price-Anderson indemnification, the ANI liability policies provide coverage only for the liability for "tort damages because of offsite bodily injury or property damage caused by the nuclear energy hazard." Specific items excluded by the ANI policies include: (i) radiation tort claims of workers (although they might be covered under another policy for another premium); (ii) bodily injury or property damage due to the manufacturing, handling or use of "any nuclear weapon or other instrument of war;" (iii) property damage to any property at the insured facility; (iv) on-site cleanup costs; and, (v) environmental cleanup costs (*i.e.*, those costs arising out of a governmental decree or order to cleanup, neutralize or contain contamination of the environment). In other words, DOE contractors still would need liability protection for these items now covered by Price-Anderson. Without Price-Anderson indemnification, contractors would have to self-insure most or all of these risks, which either would increase the costs they charge to DOE or, more likely, discourage them from continuing to perform nuclear work for DOE or other DOE contractors.

Unlike ANI's January 21, 1998 letter, the current letter does not include any estimate of ANI insurance limits or premium amounts in the unlikely event some coverage were to become available for DOE contractors. (ANI is not willing to guarantee that coverage would actually be written, even for a new DOE facility.) In any case, such insurance would not be an adequate substitute for Price-Anderson coverage. For example, the current highest ANI policy limit (for NRC-licensed nuclear power plants) is \$450 million, while the DOE Price-Anderson indemnification is for \$13.7 billion (subject to inflation indexing every five years). Insurance could not replace the \$13.7 billion of coverage provided by DOE under Price-Anderson. If such insurance limits were available, policy premiums would be cost prohibitive on a single project/contract basis.

In any case, there is no ready market for such private insurance. For decades, DOE contractors have not been required to purchase any insurance from private insurers. As outlined in greater detail, *infra*, DOE and its predecessor agencies have correctly concluded in the past that such a requirement should not be imposed for a very important reason: The costs of insurance simply would be passed on to the Government, which is in the best position to continue to self-insure nuclear risks. Moreover, Government self-insurance has proven to be a very cost-effective option, given that comparatively little Federal money has been paid out in the over 60 years since the Act was passed in 1957.

In its 1983 Report to Congress, the Department pointed out:

The Government does not require private insurance of its contractors since the cost of any outside insurance that the Government might require would have to be borne by the Government, just as the Government has to pay other costs incurred in carrying out its own programs. That view and policy have remained unchanged. Our experience to date, of course, completely supports the prudence of the judgment to self-insure from the first dollar of the indemnity coverage. Saved premium costs are considerable.<sup>43</sup>

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<sup>43</sup>1983 DOE Report, *supra* note 2, at 5.

In its 1999 Report to Congress, the Department said:

...even if private insurance were available, the amount would be limited and the cost would be astronomically high.... Under its current contracting practices, DOE would treat such premiums as allowable costs and would thereby have to reimburse hundreds of contractors and subcontractors for insurance costs.<sup>44</sup>

Based on the claims paid during the first 60 years of the DOE Price-Anderson indemnification, it is likely that private insurance premiums in the long term would be more expensive for the Government than continuing to self-insure. The 1999 DOE Report indicated the premiums would have likely cost the Department between \$30 million and \$120 million per year, and that reimbursement of these premiums would have secured insurance coverage equal to only 2% of the DOE indemnity of then \$9.42 billion.<sup>45</sup> Indeed, continuing Price-Anderson indemnification remains the preferable alternative.

**10. Should the amount of the DOE Price-Anderson indemnification for all or specified DOE activities inside the United States (currently approximately \$13.7 billion, adjusted for inflation), and outside the United States (\$500 million) remain the same or be increased or decreased?**

While the current amount of DOE Price-Anderson indemnification for activities outside the United States should be increased, the current Price-Anderson amount of approximately \$13.7 billion for DOE activities in the United States is adequate and appropriate. Although it is the highest national nuclear accident compensation amount in the world,<sup>46</sup> as DOE said in its 1999 Report to Congress, “Any reduction in this amount would be perceived as a lessening of the commitment to provide prompt and equitable compensation in the event of a nuclear incident.”<sup>47</sup> To date, the highest Price-Anderson settlements ever were about \$78 million (at Fernald in 1989) and about \$375 million (at Rocky Flats in 2017). Furthermore, Section 15 of the 1988 Act made the Act's limit of liability subject to inflation indexing not less than every five years based on the Consumer Price Index.<sup>48</sup> Under this provision, the current limit is expected to be increased later in 2023.<sup>49</sup> Additionally, if an accident were so large as to exceed the statutory indemnity ceiling, Congress first recognized in 1957 that it would be capable of legislating additional funds.<sup>50</sup> Indeed, the Act specifically has provided since 1975 that, in the event of a nuclear incident involving damages in excess of the

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<sup>44</sup>1999 DOE Report, *supra* note 2, at 14-15.

<sup>45</sup>*Id.* At 15.

<sup>46</sup>The current amount for U.S. nuclear power plants (NPPs) is slightly lower, *i.e.*, \$13,522,836,000, plus the amount from foreign Contracting States to the 1997 Convention on Supplementary Compensation for Nuclear Damage (CSC); and, is reduced by \$137,608,800 each time a licensed nuclear power reactor ceases operation and is exempt from the PAA's secondary financial protection (SFP) system by the NRC. *See, e.g.*, 86 Fed. Reg. 26961 (May 18, 2021) (removing Duane Arnold-1, which permanently shutdown on September 20, 2019, from the SFP assessment requirement). DOE's research reactors are covered for the \$13.7 billion, while research reactors operated by nonprofit educational institutions are indemnified by NRC for \$500 million in excess of \$250,000, usually covered by private insurance. *See* 42 U.S.C. §2210(k).

<sup>47</sup>1999 DOE Report, *supra* note 2, at 15.

<sup>48</sup>Pub. L. No. 100-408, §15; 102 Stat. 1078 (codified at 42 U.S.C. §2210 (t)).

<sup>49</sup>DOE made its last quinquennial inflation adjustment in the amount of indemnification provided under its nuclear contracts in 2018. 83 Fed. Reg. 49374 (Oct. 1, 2018). The current DOE amount is \$13,703,464,000 as of October 1, 2018, up from \$12,697,798,000 (set in 2013), *i.e.*, an increase of approximately 7.92%.

<sup>50</sup>*See, e.g.*, S. Rept. No. 296, *supra* note 7, at 22, reprinted in [1957] U.S. Code Cong. & Ad. News 1823; H. Rept. No. 453, *supra* note 7, at 22.

statutory limitation on liability, Congress will thoroughly review the particular incident and take whatever action is deemed necessary and appropriate to protect the public from the consequences of a disaster of such magnitude.<sup>51</sup> As DOE stated in its 1999 Report to Congress, “In support of this commitment, the Price-Anderson Act requires the President to submit a plan for full and prompt compensation for all valid claims to Congress not later than 90 days after a determination by a court that damage may exceed the DOE indemnification.”<sup>52</sup>

The amount of the DOE Price-Anderson indemnification for nuclear incidents outside the United States (currently \$500 million) should be increased to at least \$2 billion. The current figure of \$500 million was increased to that amount by the 2005 Amendments Act, after not being changed from \$100 million since it first was added to the Act in 1962.<sup>53</sup> When the 2004 Paris Convention on Third Party Liability in the Field of Nuclear Energy and the 2004 Brussels Convention Supplementary to the Paris Convention enter into force on January 1, 2022, they will require coverage of at least €1.5 billion (about \$1.75 billion).<sup>54</sup> Other countries, such as Finland, Germany, Japan, and Switzerland, provide for unlimited nuclear liability, which may make even the increased amount of at least \$2 billion suggested, *supra*, insufficient.

The 1962 Congressional Joint Committee on Atomic Energy report recognized the potential problems inherent in that year’s amendment’s \$100 million (now \$500 million) “limitation-on-liability” in situations when it applies to nuclear incidents outside the United States:

The [then \$100 million] liability limitation is generally comparable to the highest limits imposed by domestic legislation may not be entirely effective upon assertion by a defendant in the courts of a foreign jurisdiction. It is the *hope* [emphasis added] of the committee that foreign courts will apply this limitation. In any event, it is the intent of the committee that the limit imposed by section 6 of the bill shall be applied by courts of the United States in any litigation involving the application of the indemnity provisions of the Atomic Energy Act for incidents occurring outside the United States in the contractor program.<sup>55</sup>

Since \$500 million is not “comparable” to the highest limits imposed by many foreign jurisdictions, this Congressional report confirms that coverage for only \$500 million “may not be entirely effective upon assertion by a defendant in the courts of a foreign jurisdiction.” The Group therefore recommends increasing the indemnification limit for nuclear incidents outside of the United States to at least \$2 billion to make the current lower limit generally comparable to the limits in foreign jurisdictions.

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<sup>51</sup>42 U.S.C. §2210 (e) (2). This provision was added by Act of December 31, 1975, Pub. L. No. 94-197, §6, 89 Stat. 1111. *See also Duke Power Co. v. Carolina Environmental Study Group*, 438 U.S. 59, 85-86 (1978) (discussing this provision in the decision that unanimously upheld the constitutionality of the Act’s limitation on liability); and 1987 Senate Energy Committee Report, *supra* note 6, at 14.

<sup>52</sup>1999 DOE Report, *supra* note 2, at 16, citing PAA §170.i(2).

<sup>53</sup>Act of August 29, 1962, Pub. L. No. 87-615, 76 Stat. 409 (codified at 42 U.S.C. §2210d(5)).

<sup>54</sup>1 euro = \$1.1645, as of October 25, 2021.

<sup>55</sup>S. Rept. No. 1677, 87th Cong., 2d Sess. *reprinted in* [1962] U.S. Code Cong. & Ad. News 2207, 2217.

Additionally, as discussed in response to Question 13, the coverage for nuclear incidents outside the United States should be amended to cover more circumstances, such as the Department's programs for purposes such as non-proliferation, nuclear risk reduction or improvement of nuclear safety, and for terrestrial and space based microreactor development and siting/utilization/risk outside the continental United States.

**11. Should the limit on aggregate public liability be eliminated? If so, how should the resulting unlimited liability be funded? Does the rationale for the limit on aggregate public liability differ depending on whether the nuclear incident results from a DOE activity or from an activity of an NRC licensee?**

The limit on aggregate public liability should not be eliminated, as it has been a fundamental and appropriate feature of the Act since 1957. As noted in response to Question 10, if the accident were so large as to exceed the statutory indemnity ceiling, Congress first recognized in 1957 it would be capable of legislating additional funds. Indeed, the Act specifically has provided since 1975 that, in the event of a nuclear incident involving damages in excess of the statutory limitation on liability, Congress will thoroughly review the particular incident and take whatever action is deemed necessary and appropriate to protect the public from the consequences of a disaster of such magnitude.<sup>56</sup>

As the Supreme Court of the United States noted in upholding the constitutionality of the Act in 1978,<sup>57</sup> the Act's limitation on liability is a "classic example of an economic regulation - a legislative effort to structure and accommodate 'the burdens and benefits of economic life.'" The Supreme Court found that the Act was justified to encourage private industry participation in the nuclear sector. Without this limitation on liability, there would be extreme reluctance on the part of the private sector to work on DOE nuclear programs. Thus, there should be such a limitation at some appropriate figure. (As noted in response to Question 10, the current amount of almost \$13.7 billion is considered adequate.) Without a limitation on liability, the "omnibus" feature of Price-Anderson is not workable. Additionally, since Price-Anderson is not subject to appropriations, unlimited liability would amount to Congress writing a "blank check" in advance of an accident. The 2005 Amendments substantially increased the indemnity and liability limit for DOE contractors to \$10 billion, an amount more comparable to that applicable to power plants.<sup>58</sup>

**12. Should the DOE Price-Anderson indemnification continue to cover DOE contractors and other persons when a nuclear incident results from their gross negligence or willful misconduct? If not, what would be the effects, if any, on: (1) The operation of the Price-Anderson system with respect to the nuclear incident, (2) other persons indemnified, (3) potential claimants, and (4) the cost of the nuclear incident to DOE? To what extent is it possible to minimize any detrimental effects on persons other than the person whose gross**

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<sup>56</sup> 42 U.S.C. §2210e(2)..

<sup>57</sup> *Duke Power Co.*, *supra* note 51.

<sup>58</sup> DOE supported increasing the amount to that applicable to power plants. 1983 DOE Report, *supra* note 2, at 6. At one point, the House Interior Committee had considered requiring DOE to indemnify contractors to "the full extent of potential aggregate liability of the contractor." 1987 House Interior Committee Report, *supra* note 6, at 13, 23. *See* 1987 House Science Committee Report, *supra* note 6, at 12-13, 15-16 (noting "there is no such thing as unlimited compensation," since a decision on the total assets available for such compensation must eventually occur and it would be "unwise and irresponsible to purport to enable all damage victims to reach into the federal Treasury (through contractor indemnification) for compensation.").

**negligence or willful misconduct resulted in a nuclear incident? For example, what would be the effect if the United States government were given the right to seek reimbursement for the amount of the indemnification paid from a DOE contractor or other person whose gross negligence or willful misconduct causes a nuclear incident?**

The Act should not be amended to provide for an exclusion or subrogation<sup>59</sup> in cases of so-called "gross negligence" or "willful misconduct." After thorough examinations of this issue during the last two Price-Anderson extensions in 1988 and 2005, Congress, as it had in 1957, declined to make an exclusion for damages in such cases.<sup>60</sup> Arguments used included the fact that it is virtually impossible to distinguish among levels of negligence in today's tort law, so more litigation would ensue and Price-Anderson's "omnibus" feature would be destroyed. Changing coverage now would result in adoption of a position previously rejected by Congress, and could result in diminishing protection for the public (the principal purpose of Price-Anderson). The Price-Anderson system has worked remarkably well for over sixty years without any indication of the need for a subrogation or similar "contractor accountability" provision.

DOE opposed such a provision at the time of the last two Price-Anderson extensions, and should continue to do so. For example, in response to a question from the House Science Committee, DOE on February 18, 1986 submitted a written answer indicating the Department did "...not recommend the inclusion of legally imprecise terms as gross negligence, willful misconduct, or bad faith, which could lead to uncertainty on the part of our contractors and to their possible withdrawal from participation."<sup>61</sup>

Notably, new DOE civil and enhanced criminal penalty provisions were added to the 1988 Price-Anderson extension legislation by the Senate.<sup>62</sup> Chairman Johnston (the floor manager for the Senate Energy Committee) said this provision "...represents a good balance between not driving the good contractors out of business on the one hand and yet providing a severe enough penalty. After all, \$100,000 per day is a tremendous penalty and we think it is sufficient to ensure that

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<sup>59</sup>An entity having a right of subrogation can recover monies in relation to a claim or debt paid on behalf of another. The "contractor accountability" provisions proposed during the 1988 and 2005 extensions of the Act expressly would have allowed DOE or the Attorney General to recover from DOE indemnified contractors and subcontractors monies paid to injured third parties, in effect making the contractors and subcontractors self-insured. Insurance policies, for example, often allow a policyholder's primary insurer to recover from a third party's insurer (but not its own insured) monies paid on behalf of its insured.

<sup>60</sup>S. Rept. No. 296, *supra* note 7, at 21, reprinted in [1957] U.S. Code Cong. & Ad. News 1823; H. Rept. No. 435, *supra* note 7, at 21.

<sup>61</sup>Legislative Inquiry on the Price-Anderson Act, By Subcommittee on Energy Research and Production of the House Committee on Science and Technology, 99th Cong., 2d Sess. at 5, 46 (Feb. 1986).

<sup>62</sup>DOE implementation of the civil and criminal penalty provisions of the 1988 Amendments has been continuing. DOE promulgated updated nuclear safety rules just last October. 85 Fed. Reg. 66201 (Oct. 19, 2020). Procedural rules and an enforcement policy (10 C.F.R. Part 820) initially were published in 1993 and amended in 2006. 58 Fed. Reg. 43680 (Aug. 17, 1993); 71 Fed. Reg. 68732 (Nov. 28, 2006). Subsequently, a number of substantive "nuclear-safety related" rules for DOE to enforce under the 1988 Amendments were promulgated in final form. They were: DOE's final workplace substance abuse rule for contractor employees (10 C.F.R. Part 707), which became effective August 21, 1992, 57 Fed. Reg. 32652 (Jul. 22, 1992); DOE's final "whistleblower" rules (10 C.F.R. Part 708), which became effective on April 2, 1992, 57 Fed. Reg. 7533 (Mar. 3, 1992), and were updated in 2019, 84 Fed. Reg. 37752 (Aug. 2, 2019); DOE's final occupational radiation protection standards (10 C.F.R. Part 835), which became effective on January 13, 1994, 58 Fed. Reg. 65458 (Dec. 14, 1993), and were last amended in 2015, 80 Fed. Reg. 5008 (Jan. 30, 2015); and, the quality assurance portions of 10 C.F.R. Part 830, which required contractors to submit to DOE a current quality assurance program and an implementation plan. 59 Fed. Reg. 15843, 15852 (Apr. 5, 1994); 66 Fed. Reg. 1818 (Jan. 10, 2001).

[contractors'] conduct will be of the very highest order."<sup>63</sup> Conversely, on the same day, the Senate (on a roll call vote of 53 to 41)<sup>64</sup> tabled Senator Metzenbaum's attempt to add a subrogation provision to the bill.<sup>65</sup>

Prior to final passage of the 2005 Amendments Act, the bill reported by the House Energy and Commerce Committee (H.R.1640) included a provision that would have authorized the Attorney General to bring an action to recover from a DOE contractor, subcontractor, or supplier amounts paid by the Federal Government under an indemnity agreement for public liability resulting from conduct which constitutes "intentional misconduct" of any corporate officer, manager, or superintendent of the DOE contractor, subcontractor, or supplier.<sup>66</sup> That provision was dropped in the Conference Report on the final bill (H.R.6).<sup>67</sup>

The terms "gross negligence" and "willful misconduct" cannot be precisely defined in today's tort law. Introduction of such terms into Price-Anderson only would ensure protracted litigation in the event of an accident. The idea of degrees of negligence has been rejected by many courts as a distinction "vague and impracticable in [its] nature, so unfounded in principle."<sup>68</sup> In some States, courts do not even recognize different types of tortious conduct.<sup>69</sup>

Commercial insurance, if it were available, would not allow subrogation. Imagine an analogous situation where an automobile insurance policy allowed subrogation by the insurance company in ill-defined cases of an insured "gross negligence" or "willful misconduct:" In that case, the automobile insurance company would pay the injured third party; and, then turn around and sue its insured to recover the payment, alleging the driver's "gross negligence" or "willful misconduct." Obviously, subrogation in that case would negate the car owner's reason for purchasing insurance in the first place. Similarly, any subrogation provision in Price-Anderson would destroy essential benefits of its coverage, and make as little sense as it would in the automobile insurance policy.

Indemnifying contractors against nuclear liability does not somehow act as a disincentive to safety at DOE facilities. DOE contractors have a number of incentives to act safely, including the fact that the contractors, not DOE, must defend claims in the first instance, which is often complicated and protracted litigation that is a drain on contractor time and resources. Price-Anderson indemnity covers only nuclear liability. Contractors still are exposed to conventional, nonnuclear liability. Aside from the litigation risks, poor contractor performance could lead to debarment from future

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<sup>63</sup>134 Cong. Rec. S2310 (daily ed. Mar. 16, 1988). The Federal Civil Penalties Inflation Adjustment Act of 2015 required agencies to adjust their civil penalties for inflation annually according to that Act's formula. Pub. L. No. 114-74, section 701, 129 Stat. 584, 599. DOE adjusted its civil monetary penalties, effective January 8, 2020. 85Fed. Reg. 827 (Jan. 8, 2020).

<sup>64</sup>See 134 Cong. Rec. 82335 (daily ed. Mar. 16, 1988).

<sup>65</sup>It is significant that the Metzenbaum amendment was defeated, even though Senator Bumpers had further amended it by limiting any subrogation to the lesser of the "contract's award fee" or the limitation on liability (*i.e.*, then about \$7 billion). See 134 Cong. Rec. S2325-S2329 (daily ed. Mar. 16, 1988).

<sup>66</sup>See Energy and Commerce Report to accompany H.R.1640, §612 on financial accountability. H. Rept. 109-215, 109<sup>th</sup> Cong., 1<sup>st</sup> Sess. at 56-57.

<sup>67</sup>See H. Rept. 109-190, 109<sup>th</sup> Cong., 1<sup>st</sup> Sess.

<sup>68</sup>See *Prosser and Keeton on the Law of Torts* (5th Ed. 1984) 210 (quoting Heuston, *Salmond on Torts* (16th Ed. 1973) §80, at 224 note 69)

<sup>69</sup>See S.M. Speiser *et al.*, *The American Law of Torts* (1986) §§10:1 *et seq.*

DOE contracts. Additionally, DOE exerts close supervision over its contractors to ensure that the public health and safety are protected. DOE by regulation, by the contractual provisions it imposes on contractors and/or by the degree of supervision it exercises over the activities of its contractors currently possesses adequate authority to encourage appropriate accountability on the part of its contractors. Furthermore, the Supreme Court of the United States found that the allegation that liability coverage makes entities less prudent (with respect to power plants) "simply cannot withstand careful scrutiny" because of the detailed Federal supervision of nuclear activities.<sup>70</sup>

In addition and as noted *supra*, DOE can, pursuant to 10 C.F.R. Part 820, assess penalties for certain 10 C.F.R. Part 830 nuclear safety or quality noncompliances and for certain 10 C.F.R. Part 835 personnel radiation protection noncompliances. Also as noted *supra*, DOE has the ability to pursue a Federal Acquisition Regulation Part 9<sup>71</sup> debarment or suspension of the contractor where the circumstances demonstrate conduct that justifies such actions. Additionally, DOE possesses the ability, under the Conditional Fee and Payment clause of its contracts, to issue a fee penalty for safety and environmental noncompliance, and it can render a damaging performance evaluation, which would make it unlikely, at least for a given period of time, that the contractor will be afforded future Federal work.

With no substitute insurance available, diminishing Price-Anderson coverage would subject contractors to the relentless pursuit by tort lawyers who would be the principal beneficiaries of any subrogation or similar "contractor accountability" provision. It also would make it more likely that payments to the public would be delayed, because each individual defendant fearing possible liability to DOE after victims are compensated would be less likely to cooperate in reaching settlements. While today the defense of claims often is handled through joint defense agreements among the contractor defendants, if exposed to a risk of subrogation, each of the potentially liable contractors would be compelled to hire their own lawyers to protect their uncovered exposure, pursue extended investigations and negotiations, and seek, as a priority in any litigation to shift responsibility to other defendants. The net result of any such subrogation or "contractor accountability" provision would be to significantly complicate and greatly delay any payment to victims and to discourage many contractors, subcontractors and suppliers from participating in the nuclear business, both results being in direct contradiction of the two prime purposes of the whole Price-Anderson system.

Such a change also could conceivably eliminate coverage altogether based on the act of a low-level employee or supplier whose conduct might be "imputed" by law to his/her ultimate employer.

Many of the contractor operations at DOE facilities still involve sensitive national defense activities. Establishing the adversarial relationship inherent in subrogation or similar "contractor accountability" provisions being put forward can only negatively affect the Government's options and security interests involved, because it likely would undermine qualified and responsible contractors' willingness to participate in such work.

In sum, if the Price-Anderson Act were amended to add some exclusion for "gross negligence" or "willful misconduct," then, in assessing their potential risk exposure, contractors would have to

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<sup>70</sup>*Duke Power Co.*, *supra* note 51, 438 U.S. at 87.

<sup>71</sup>48 C.F.R. Part 9.

assume they essentially would have no nuclear hazards liability coverage. They also would have to assume post-accident analyses, investigations, claims and/or lawsuits that would seek to name as many defendants, including contractors, subcontractors and suppliers, as possible, resulting in significant defense cost, distraction and reputational harm for each, regardless of fault. The risks they would be exposed to would be unsustainable, which is the reason why even well-capitalized entities seek liability coverage in the first place.<sup>72</sup> Absent such coverage through the PAA, these entities would be extremely reluctant to offer their technologies, products and services to DOE for nuclear-related projects.

**13. Should the definition of nuclear incident be expanded to include occurrences that result from DOE activity outside the United States where such activity does not involve nuclear material owned by, and used by or under contract with, the United States? For example, should the DOE Price-Anderson indemnification be available for activities of DOE contractors that are undertaken outside the United States for purposes such as non-proliferation, nuclear risk reduction or improvement of nuclear safety? If so, should the DOE Price-Anderson indemnification for these additional activities be mandatory or discretionary?**

DOE Price-Anderson indemnification should be expanded to apply to activities of DOE and other agency contractors that are undertaken outside the United States for important purposes such as non-proliferation, nuclear risk reduction or improvement of nuclear safety, as well as, for example, the development and utilization of terrestrial and space microreactors. For the reasons stated in response to Question 2, *supra*, coverage should be mandatory for all activities done under DOE contracts.

At the present time, the statutory definition of "nuclear incident"<sup>73</sup> limits coverage outside the United States to situations where the nuclear material is "owned by, and used by or under contract with, the United States...."<sup>74</sup> Additionally, foreign coverage, when compared to domestic coverage, varies in several respects under Section 170d: For example, the class of persons eligible for indemnity coverage is smaller. Coverage extends only to the prime contractor with the indemnity agreement, subcontractor, suppliers of any tier, and others whose liability arises by reasons of activities connected with such contracts or subcontracts (rather than "anyone liable"). Further, the wide latitude given when defining the person indemnified does not apply to foreign coverage. Finally, the §170n waiver of defenses ("extraordinary nuclear occurrence" provision) does not apply.

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<sup>72</sup>Risk transfer mechanisms have been used for centuries. For example, the earliest English statute dealing with marine insurance was in 1601 (43 Eliz c.12). Even then at the very beginning of the seventeenth century, it referred to marine insurance as a usage that has been "time out of mind among merchants" and which allowed them "to venture more willingly and freely."

<sup>73</sup> 42 U.S.C. §2014(q).

<sup>74</sup>This ownership requirement was a key deterrent for DOE contractors and subcontractors in the 1990s when they were being asked by the Department to provide assistance with nuclear-safety upgrades at Soviet-designed nuclear power plants. Whether DOE agrees to take title to nuclear material being shipped from a foreign nuclear installation varies depending upon the financial ability of the shipping country to provide nuclear liability coverage and/or what entity (the foreign installation or the U.S. Government) is handling the shipment. In some cases, DOE does not take title until the material arrives at the DOE nuclear installation or at the territorial limits of the United States. On the other hand, if the U.S. Government (*e.g.*, the U.S. Air Force) is handling the shipment, title usually has passed at the foreign installation. Thus, it could vary whether shipments of nuclear material would have the benefit of the current \$500 million of U.S. Government indemnification.

Generally because of the "owned by. . . the United States" requirement, Price-Anderson does not protect all contractors funded by DOE to do Congressionally funded nuclear safety, non-proliferation, and nuclear risk reduction work abroad. DOE has provided a few contractors indemnification under Public Law 85-804 for limited nuclear nonproliferation work, such as in the former Soviet Union. However, the Department has declined to provide such coverage for work on former Soviet-bloc nuclear power reactors (even though the risk of such work is generally greater than the work for which DOE indemnification has been provided). As a result, a number of contractors declined to do DOE-funded work on Soviet-designed power plants.

**14. Should the PAA be modified to extend its authorization beyond 2025, or to make permanent the authorization? If so, what would be the effect, if any, on the DOE Price-Anderson indemnification? What would be the effect, if any, on the United States' adherence to the CSC?**

The PAA should be modified to make DOE's PAA authority permanent, or at a minimum beyond 2025. For over 70 years, Price-Anderson has worked effectively at little cost to the U.S. Government. Making the authority permanent would eliminate the need for Congress to routinely revisit the matter as often as it has. At the same time, DOE still could be required to provide periodic reports to Congress on the operations under the Act, which would facilitate Congressional review of the Act's provisions, if needed.

**15. Should the PAA be modified as necessary to enable the United States to become a party to other international nuclear liability law treaties in addition to the CSC (that is, replace state tort law with the international nuclear liability principles, including channeling all legal liability exclusively to the operator on the basis of strict liability)? If so, what would be the effect, if any, on the system of financial protection, indemnification and compensation established by the PAA?**

It would not be feasible for the PAA to be modified to enable the United States to become a party to other international nuclear liability law treaties in addition to the CSC (*i.e.*, replace state tort law with the international nuclear liability principles, including legally channeling all liability exclusively to the operator on the basis of strict liability).<sup>75</sup> The U.S. Government considered this possibility during the 1990s when the provisions of the CSC were being negotiated at the International Atomic Energy Agency (IAEA). At that time, it was determined that Price-Anderson had been working effectively for almost 40 years and that Congress would not be willing to make the radical changes, such as replacing state tort law and eliminating "economic channeling" that would have been necessary. While pure legal channeling on the basis of strict liability might be

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<sup>75</sup>The PAA already contains other key features of the other conventions, as was noted in the President's November 2002 Message transmitting the CSC to the Senate:

The CSC incorporates three well-accepted principles that form the basis for the Price-Anderson system as well as the Paris and Vienna conventions. It (1) requires that all claims resulting from a covered nuclear incident be adjudicated in a single forum (in most cases the courts of the Party within which the nuclear incident occurs), (2) channels liability for all claims to the nuclear installation operator, and (3) provides for the strict liability of the operator (*i.e.*, without the need to prove negligence). Message from the President of the United States Transmitting Convention on Supplementary Compensation for Nuclear Damage (Nov. 15, 2002) at VII, S. Treaty Doc. No. 107-21.

more efficient, it simply is impactable for the United States to change its system to legal channeling from "economic channeling" (provided through the "omnibus" feature discussed in response to Question 3). Since Price-Anderson first was adopted in 1957, there has been considerable resistance to the total displacement of State law by creation of a "Federal tort" for nuclear accidents. The result of balancing competing factors was the "waiver" system in which entities covered by Price-Anderson were required in 1966 to waive certain State law defenses (*i.e.*, contributory negligence, assumption of risk, charitable or governmental immunity, unforeseeable intervening causes, and "short" statutes of limitations) in the event of an "extraordinary nuclear occurrence (ENO)."<sup>76</sup> Preemption of State tort laws might be constitutionally permissible, but it would be a politically impractical alternative. Indeed, it was rejected by Congress in 1957 and again in 1966 when the ENO provision was added to the Act. Furthermore, the Annex to the CSC recognizes economic channeling under Price-Anderson as equivalent to the protection afforded under the legal channeling provisions of the Vienna Convention on Civil Liability for Nuclear Damage.

Finally, taking into account the considerable length of time it took for the United States to ratify the CSC,<sup>77</sup> it is most likely that joining one of the other nuclear liability conventions could not be accomplished expeditiously. Thus, given the historical context, the better course would be for the United States to continue to encourage wider adherence to the CSC, which already covers more of the world's operational nuclear power reactors (177 of 444) than any other nuclear liability convention, while leaving the Price-Anderson Act intact.

**16. Should the PAA be modified to harmonize the operation of the PAA and the CSC? If so, describe the modification and explain the rationale.**

The PAA does not need to be modified to harmonize the operation of the PAA and the CSC. At the same time, it will be important for Congress not to amend the PAA in ways that would interfere with the United States' treaty obligations. For example, the DOE Notice recognizes that there are certain CSC Annex and PAA provisions that allowed the United States to join the CSC without modifying the PAA.<sup>78</sup> As the Notice says, the United States needs to maintain certain provisions

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<sup>76</sup>Act of October 13, 1966, Pub. L. No. 89-645, 80 Stat. 891. The ENO provision now is mainly in §170n(1) of the Act.

<sup>77</sup>In brief, the United States was the first country to sign the CSC when it was opened for signature on September 29, 1997, after being adopted at the 41<sup>st</sup> General Conference of the IAEA on September 12, 1997 (after about four years of negotiations). On November 12, 2002, the President transmitted the CSC to the Senate for advice and consent to ratification. The Senate Foreign Relations Committee (SFRC) held a public hearing on the treaty on September 29, 2005, in which it heard testimony from representatives of the Departments of State and Energy. The CSC, however, continued to languish until about the time Secretary of State Rice sent a May 5, 2006 letter to SFRC Chairman Lugar urging prompt action on the CSC. The SFRC at its business meeting on May 23, 2006 unanimously voted by voice vote to report the treaty to the full Senate. The SFRC's written report was submitted on June 28, 2006. S. Exec. Rept. 109-15, 109<sup>th</sup> Congress, 2d Session. Without objection (or debate), the Senate consented to ratification by division vote on August 3, 2006. 152 Cong. Rec. S8901 (daily ed. Aug. 3, 2006). U.S. ratification was further delayed by the lack of implementing legislation. A May 2007 letter from Assistant Secretary of State Rood said, "Joining the CSC without enactment of the implementing legislation would contravene longstanding U.S. treaty *practice* [emphasis added] not to become a party to a treaty until the enactment of any implementing legislation that is essential for meeting our obligations under the treaty." The full Senate unanimously consented to passage of implementing legislation on September 30, 2006, 152 Cong. Rec. S10798-S10802 (daily ed. Sept. 30, 2006), just before recessing for the November 2006 Congressional elections. Time ran out for action on the CSC implementing legislation by the House in the post-election "lame-duck" session before the 109<sup>th</sup> Congress adjourned *sine die* in December 2006. Finally, the CSC Contingent Cost Allocation Act, 42 U.S.C. §17373, was adopted on December 19, 2007 as section 934 (121 Stat. 1741) of the Energy Independence and Security Act of 2007. Pub. L. No. 110-140, 121 Stat. 1492. The U.S. instrument of ratification was deposited with the IAEA on May 21, 2008. The CSC entered into force on April 15, 2015 after accession by Japan.

<sup>78</sup>86 Fed. Reg. at 40034.

that were in effect on January 1, 1995, including those on DOE indemnification for reactors and certain other nuclear installations, the definition of “person indemnified,” and the waiver of certain defenses with respect to an ENO. Additionally, there are CSC Annex provisions on the minimum nuclear liability amounts to be maintained to allow the United States to continue to benefit from the CSC’s “grandfather provision” that enabled the United States to join the CSC. In particular, the CSC requires the United States to “ensure the availability of at least 1000 million Special Drawing Rights (SDRs) [about \$1.415 billion<sup>79</sup>] in respect of a *civil nuclear power plant* [emphasis added] and at least 300 million SDRs in respect of other civil nuclear installations....” Unlike CSC Annex Article 4.2, CSC Annex Article 2 says nothing about the Government making up the difference between a lower liability limit; and, specifically refers to “a civil nuclear power plant,” rather than simply “a nuclear installation.” This appears to mean that the United States has a treaty requirement to maintain a liability limit of at least about \$1.415 billion for all civil nuclear power plants, including small modular reactors (SMRs).

**17. Should section 934 of EISA be modified, especially with respect to the mechanisms for funding the United States' contribution to the CSC international fund? If so, describe the modification and explain the rationale.**

In its upcoming report, DOE should ask Congress to remove the requirement for U.S. suppliers to cover the U.S. share of the CSC international fund. Section 934 of the EISA unnecessarily, uniquely, and unfairly imposes on U.S. suppliers, including suppliers of DOE, a financial obligation to pay the U.S. contribution to the CSC international fund in the event of a foreign nuclear incident. No other country party to the CSC takes this approach, which creates a significant risk for U.S. suppliers that export U.S. nuclear technology, products, and services or supply others engaged in those activities. The 2007 legislation’s supplier-oriented rule imposed an unprecedented burden and cost on U.S. suppliers.

With the CSC now in force since 2015, the Price-Anderson Act amount of public liability will be increased by the funds made available from other CSC Member States under Article VII of the CSC.<sup>80</sup> This amount will depend upon the number of CSC Member States at the time of the nuclear incident. Based on the current CSC membership of eleven States, the foreign contributions would be 53,915,745 SDRs (about \$76,291,187), and would form a new “additional early source of funds to compensate damage arising out of the Price-Anderson incident” above 300 million SDRs (about \$425 million).<sup>81</sup> This amount would provide a benefit to any future U.S. victims of a U.S. nuclear incident as well to the U.S. operators of the facilities where those incidents may occur. It is anomalous that U.S. nuclear power plant operators will not be required to contribute to the CSC fund for this benefit, while U.S. nuclear suppliers that are not operators currently would be required to contribute 48,936,294 SDRs (about \$69,245,226) to the CSC international fund in the event of an accident in another CSC Member State, while U.S. operators gain - for free - the additional amount of protection for incidents occurring in the United States (which today has the largest fleet of nuclear reactors in the world). Notably, CSC Members Canada and Japan provide for only their domestic nuclear installation operators to pay their countries’ CSC shares, which is far more

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<sup>79</sup>1 Special Drawing Right (SDR) = \$1.4150, as of October 25, 2021.

<sup>80</sup>42 U.S.C. §17373(d).

<sup>81</sup>See 42 U.S.C. §17373(a)(1)(E).

realistic, easier to allocate than the approach Congress took in 2007,<sup>82</sup> and consistent with the principle of channeling liability for all nuclear damage exclusively to operators, which is fundamental in the Price-Anderson Act and the international nuclear liability conventions.<sup>83</sup>

The DOE report also could be used to inform Congress about countries that (i) seek to ratify the CSC with non-compliant national laws; (ii) include as covered installations facilities that represent an unusually high risk of a nuclear incident, as compared to any other CSC Member State's covered installations;<sup>84</sup> and/or (iii) assess suppliers doing business there some share of their CSC contributions. Under the present statute, for example, U.S. suppliers could be required to pay for both the U.S. CSC share and for some share in a country that assessed suppliers doing business there for a portion of that country's CSC contribution. The current situation in India also could lead to U.S. suppliers paying more than once: U.S. suppliers that declined to do nuclear work in India believing its law is not CSC-consistent now would be assessed in the United States for the U.S. share of the CSC fund for an accident at a Russian-built plant in India (unless, as the Group recommends, EISA is changed to eliminate the requirement for U.S. suppliers to pay the U.S. share of the CSC international fund). And, if a U.S. supplier did work in India, it also now would be exposed to liability in India under two sections of the 2010 Indian Nuclear Damage Act, *i.e.*, Section 17b (which allows recourse against suppliers that may or may not have paid for some partial supplier insurance coverage in India) and Section 46 (which allows lawsuits for uninsured unlimited amounts under other Indian laws). DOE should report these concerns to Congress, and seek an amendment to the 2007 CSC Contingent Cost Allocation Act that would remove the requirement for U.S. nuclear suppliers to make contributions to such countries. Otherwise, it is likely that the CSC will impose a substantial burden and extremely unfair risk on U.S. suppliers (thereby not providing the protections for U.S. nuclear suppliers that form the rationale for requiring them to bear the cost of the entire U.S. share of the CSC fund).

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<sup>82</sup>Based on its experience with the Government's 14-year effort to implement the 2007 CSC Contingent Cost Allocation Act ("Allocation Act"), the Group does not believe that an equitable formula consistent with the legislative history of the Allocation Act, including one that (i) does not have an adverse competitive impact on nuclear suppliers in the United States or foreign markets and (ii) avoids discouraging nuclear suppliers from engaging in manufacturing, research and development or other activities in the United States or from participating in U.S. Government-sponsored projects or activities either in the United States or abroad, can be achieved. This legislative history includes the following statement from the 2006 Senate Environment and Public Works Committee report on a prior version of the Allocation Act:

Generally, in implementing this Act and, in particular, in arriving at the risk-informed assessment formula under Section 6(b)(3), the Committee believes the Secretary should seek to (i) minimize any adverse competitive impact of this Act on nuclear suppliers in the United States or foreign markets and (ii) avoid discouraging nuclear suppliers from engaging in manufacturing, research and development or other activities in the United States or from participating in U.S. Government-sponsored projects or activities either in the United States or abroad. Convention on Supplementary Compensation for Nuclear Damage Contingent Cost Allocation Act, S. Rept. 109-346, 109th Cong., 2d Sess. (Sept. 25, 2006) at 5.

There simply is no formula that would avoid or minimize these effects.

<sup>83</sup>The Senate conditioned CSC ratification on the Secretary of State reporting on U.S. diplomatic efforts to encourage other nations to become CSC Contracting Parties and providing Congress a description of the domestic laws enacted by each Contracting Party. 152 Cong. Rec. S8901 (Aug. 3, 2006). The Senate's resolution of advice and consent to ratification of the CSC provided such reports should be submitted not later than 180 days after entry into force of the Convention for the United States (which occurred on April 15, 2015) and annually thereafter for four additional years. *Id.* There is no record such reports, which should have described the Canadian and Japanese laws, have been submitted to Congress.

<sup>84</sup>Application of the CSC to a facility depends upon the declaration of the country where the installation is located that it is covered. Therefore, standards or guidelines on which facilities are "in" or "out" do not exist; and, accordingly, a U.S. supplier cannot take into account whether a particular foreign installation would be covered by the CSC when deciding whether to provide it with goods or services. As indicated in note 85 *infra*, IAEA does not permit public access to the list of CSC-covered nuclear installations.

Finally, Section 934 of EISA does not appear to address the mechanisms for funding the United States' contribution to the CSC international fund in the highly unlikely event of a nuclear incident exceeding 300 million SDRs (about \$425 million) at one of the research reactors operated by DOE.<sup>85</sup> DOE is advised that this matter should be addressed as a possible amendment to EISA.

**18. Should the procedures in the PAA for administrative and judicial proceedings be modified? If so, describe the modification and explain the rationale.**

The procedures in the Act for administrative and judicial proceedings should not be modified.<sup>86</sup> No reasons for doing so have been identified, particularly given the historically small number of Price-Anderson claims over the last more than 60 years.

**19. Should there be any modification in the types of claims covered by the PAA system?**

There are no apparent reasons for any modification in the types of claims covered by the Price-Anderson system. DOE PAA indemnification is for “public liability,” which the Act defines as “...any legal liability arising out of or resulting from a nuclear incident or precautionary evacuation (including all reasonable additional costs incurred by a State, or a political subdivision of a State, in the course of responding to a nuclear incident or a precautionary evacuation)...”<sup>87</sup> For DOE contractors, the only exceptions are “ (i) claims under State or Federal workmen's compensation acts of employees of persons indemnified who are employed at the site of and in connection with the activity where the nuclear incident occurs, [and] (ii) claims arising out of an act of war....”<sup>88</sup>

**20. What modifications in the PAA or its implementation, if any, could facilitate the prompt payment and settlement of claims?**

There are no apparent reasons for any modifications in the Act or its implementation to facilitate the prompt payment and settlement of claims. Section 170m of the Act already contains sufficient provisions for payment of immediate assistance following a nuclear incident (without even requiring the securing of releases from claimants).

**21. Should the PAA be modified to address any unique circumstances or issues raised by the development and deployment of advanced nuclear reactors, including small modular reactors and microreactors? If so, describe the modification and explain the rationale.**

The PAA should be modified to address the recommendations in response to Questions 10 and 13, *supra*, and in response to this Question 21. Apart from those recommendations, there does not appear to be a need to modify the PAA to address any unique circumstances or issues raised by the development and deployment of advanced nuclear reactors, including small modular reactors (SMRs) and microreactors. Under the part of the PAA administered by NRC, U.S. licensed

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<sup>85</sup>When the United States filed its instrument of CSC ratification with the International Atomic Energy Agency in 2008, it included five DOE research reactors in the listing of nuclear installations referred to in Article IV.3 of the CSC in the United States as of April 30, 2008. As IAEA does not permit public access to the list of CSC-covered nuclear installations, it is not known whether the U.S. listing remains current.

<sup>86</sup>See 42 U.S.C. §2210n.

<sup>87</sup>42 U.S.C. §2014(w).

<sup>88</sup>*Id.*

reactors above 100 megawatts electric (MWe) currently must carry the maximum amount of insurance available from private sources (now \$450 million) and also participate in the secondary financial protection (SFP) program.<sup>89</sup> Any difference for SMRs would need to take into account U.S. treaty obligations for the first time. For the United States, the Convention on Supplementary Compensation for Nuclear Damage requires a minimum liability amount for all power reactors: CSC Annex Article 2.3 (the so-called “grandfather clause” that allowed the United States to join the CSC without changing the Price-Anderson Act’s economic channeling) requires the United States to “ensure the availability of at least 1000 million SDRs [about \$1.415 billion] in respect of a *civil nuclear power plant* [emphasis added] and at least 300 million SDRs in respect of other civil nuclear installations....” Unlike CSC Annex Article 4.2, CSC Annex Article 2 says nothing about the Government making up the difference between a lower liability limit; and, specifically refers to “a civil nuclear power plant,” rather than simply “a nuclear installation.” As indicated, *supra*, in response to Question 16, this appears to mean that the United States has a treaty requirement to maintain a liability limit of at least about \$1.415 billion for all civil nuclear power plants, including SMRs.

When considering Government uses of reactors outside the United States, DOE should consider raising the amount of coverage to something greater than \$500 million (see the response to Question 10, *supra*). While Government SMR use within the United States can be expected, a significant portion of the use will occur outside the United States. For example, much Department of Defense use can be expected to occur outside the United States. While, as noted in the response to question 19, *supra*, Price-Anderson does not provide coverage for acts of war, it does cover other activities during deployment, such as transportation, storage, maintenance and operation during training. This is among the reasons that the Group has proposed increasing the amount of Price-Anderson coverage outside the U.S. to at least \$2 billion.

The Act should be modified to specifically reference microreactors and address particular inherent issues related to the operation, transportation and storage of fueled components and related nuclear waste activities, as well as confirming the applicability of economic channeling, notwithstanding variability of the project delivery mechanism from traditionally installed nuclear facilities.

Relatedly, the Act should also be modified to specifically reference microreactors intended for use in space and the inherent terrestrial risks associated with launch and recovery of such.

**22. Should the PAA be modified to address any unique circumstances or issues raised by research and development activities related to advanced nuclear reactors, including small modular reactors and microreactors at DOE sites or by DOE contractors? If so, describe the modification and explain the rationale.**

The Act should be modified to address any unique circumstances or issues raised by research and development activities related to advanced nuclear reactors, including, but not limited to, small modular reactors and microreactors. DOE has aggressive plans for its research and development (R&D) activities related to advanced nuclear reactors, including, but not limited to, small modular reactors and microreactors. These plans would be facilitated by removing private participants’ risks of nuclear liability by ensuring that the R&D activities are covered by the PAA. DOE PAA

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<sup>89</sup>42 U.S.C. §2210b.

indemnification thus should be extended to activities undertaken pursuant to cooperative agreements, Cooperative Research and Development Agreements (CRADAs) performed under the National Competitiveness Technology Transfer Act of 1989,<sup>90</sup> Strategic Partnership Project Agreements and grants, if not already covered. The Act should be modified to clarify that such come within the meaning of the term “contract” as used in Section 170d of the Act. This point was made in the previous *ad hoc* Group’s January 30, 1998 comments in response to Question 16 in DOE’s 1997 Notice of Inquiry, but was not addressed in DOE’s 1999 Report to Congress. The 1999 Report to Congress did say DOE indemnification does cover “any arrangement that is contractual in nature and that DOE uses to secure a direct benefit for its account in furtherance of its mission.”<sup>91</sup> (The example given was the leasing of facilities no longer used for DOE activities for the purpose of reindustrialization efforts.) At the same time, DOE added, “Whether a particular arrangement or portion thereof is contractual in nature and provides a direct benefit to DOE is a factual determination.... The DOE indemnification does not cover commercial activities that are not for the account of DOE, even if such activities take place on DOE property under a lease or other arrangement with DOE.” While helpful, these statements do not provide sufficient clarification to provide assurance of coverage.

DOE’s 1999 Report to Congress,<sup>92</sup> did provide a line of demarcation for indemnification. On the one hand, arrangements that are contractual in nature and which DOE uses to secure a direct benefit for its account in furtherance of its missions (*e.g.*, procurement contracts, other transaction agreements and leases) are indemnified. On the other hand, as observed, *supra*, indemnification may be unavailable for arrangements designed to promote a public benefit, with specific reference to grants and cooperative agreements. For several reasons, the Group believes this distinction is poorly suited and wrong. First, while it is true that contracts are for DOE’s direct benefit, while grants and cooperative agreements are designed for the public benefit, they are all funded with taxpayer dollars and DOE ultimately exists for the benefit of the U.S. population. Regardless of the arrangement, they are all ultimately for the benefit of the same stakeholders. Grants and cooperative agreements exist to support DOE’s mission. Second, it is form over substance. Indemnifications exist as a protection from liability and to encourage commercial participation. The form of the arrangement has no bearing on the incurrence of liability. Regardless of the form of arrangement, the contractor or other recipient under the arrangement with DOE will have a scope or purpose; and, it is the performance of that scope or purpose that can trigger liability (in some instances, immediately, in others, years or decades later). In sum, there is no legitimate basis for DOE to conclude that contracts are entitled to indemnity, while grants, cooperative agreements and CRADAs are not. A consistent perspective regarding liability is required no matter the contracting vehicle, since regardless of which of these arrangements is utilized, the performing entity is conducting activity that is both in the interests of the U.S. Government and at risk for nuclear liability.

As DOE stated in its 1999 Report to Congress,<sup>93</sup> the protection afforded by the DOE indemnification should not be dependent on factors such as whether an activity takes place under a procurement contract, or is undertaken by a DOE contractor pursuant to a license from the NRC.

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<sup>90</sup>Act of November 29, 1989, Pub. L No. 101-189 §§3131 *et seq.*, 103 Stat. 1352, 1674.

<sup>91</sup>1999 DOE Report, *supra* note 2, at 19.

<sup>92</sup>1999 DOE Report, *supra* note 2, at 19 and FN 43.

<sup>93</sup>*Id.* at 2 and 17.

The 1999 Report said, “Limitations based on such factors would likely be cumbersome to administer without achieving any significant cost savings.”<sup>94</sup>

**23. Should the PAA be modified to address any issues raised by current or anticipated changes in the nuclear industry such as increased use of reactors with capacity of less than 100 megawatts, decreased use of reactors with capacity of greater than 100 megawatts, and deployment of fusion reactors? If so, describe the modification and explain the rationale.**

Any DOE reactors of whatever capacity already would be covered by DOE’s PAA Section 170d mandatory indemnification authority. Licensed non-DOE reactors are subject to NRC’s authority under PAA Sections 170a to -c, which authorize NRC to require its licensees of reactors with capacity of less than 100 megawatts to maintain financial protection of such type and in such amounts as the Commission requires and which require that its licensees of reactors with capacity of greater than 100 megawatts have and maintain primary financial protection equal to the maximum amount of liability insurance available from private sources and to maintain private liability insurance available under an industry retrospective rating plan. If NRC thinks changes in these conditions are warranted, it presumably will indicate that in its separate Report to Congress on the PAA.

Since serious consideration is being given to use of microreactors to be deployed by DOD inside and outside the United States (*e.g.*, to relieve the stress on military fossil fuel needs),<sup>95</sup> the DOE Report to Congress should address nuclear liability coverage for such reactors (including a limit of greater than \$500 million when the reactor is outside the United States). Section 170d(6) now provides that DOE PAA indemnification may be applicable to contracts and projects financed in whole or in part by the Secretary (*e.g.*, by use of the Economy Act<sup>96</sup>), but not to projects not so financed. Non-DOE agency transfers of funds to DOE have allowed for Price-Anderson indemnification of contractors who would otherwise not qualify for such, but it is a cumbersome and time-consuming process.

The solution may be modifying the PAA to provide DOE indemnification of contractors financed solely by other Federal Agencies, such as the DOD (*e.g.*, for the Army Corps of Engineers Formerly Utilized Sites Remedial Action Program (FUSRAP)) and/or NASA (*e.g.*, for use of nuclear material and components for deep space applications), or perhaps even the extension of the authority to grant Price-Anderson indemnity to DOD and NASA.

While clarification may be warranted (*e.g.*, in the PAA’s definitions of “byproduct material” and “utilization facility”), it is unclear at this stage whether the PAA needs to be modified to specifically include coverage for the still developing technology of fusion reactors.<sup>97</sup> In October

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<sup>94</sup>*Id.* At 17.

<sup>95</sup>DOD’s Strategic Capabilities Office recently has released for public input a Draft Construction and Demonstration of a Prototype Mobile Microreactor Environmental Impact Statement (Sept. 2021). *See also* 85 Fed. Reg. 12274 (Mar. 2, 2020), and <https://www.mobilemicroreactoreis.com>.

<sup>96</sup>31 U.S.C. §1535.

<sup>97</sup>The issue of coverage of fusion reactors under the international nuclear liability conventions continues to be examined by both the IAEA International Expert Group on Nuclear Liability (INLEX) and the OECD Nuclear Energy Agency Nuclear Law Committee (NEA NLC). The general conclusion has been that the nuclear liability conventions do not cover fusion installations. The definitions of “nuclear fuel” provided in all the conventions, and the definitions of “nuclear material” and “nuclear reactor” provided in all of them except the Paris Convention, explicitly refer to fission. An NEA NLC Working Group on Fusion has been

2020, the NRC staff was directed to consider the appropriate treatment of fusion reactor designs in the NRC regulatory structure by developing options for Commission consideration on licensing and regulating fusion energy systems. On September 16, 2021, the NRC staff hosted a webinar to provide an opportunity for external stakeholders and the NRC staff to exchange information on the NRC's development of a regulatory framework for the possible commercial deployment of fusion energy systems. The NRC staff is developing options, and indicated during the webinar that a SECY paper for the NRC Commissioners is scheduled to be presented in May 2022. This presumably will take into account off-site dose consequence scenarios. These activities by NRC have been undertaken, in part, to address requirements in the Nuclear Energy Innovation and Modernization Act (NEIMA),<sup>98</sup> which directs the NRC to develop a technology-inclusive, regulatory framework for advanced commercial nuclear reactors. NEIMA defines advanced nuclear reactor as including both fission and fusion reactors.<sup>99</sup> The NRC had asserted in 2009 that the NRC has regulatory jurisdiction over commercial fusion energy devices whenever such devices are of significance to the common defense and security, or could affect the health and safety of the public.<sup>100</sup> In more recent interactions such as the joint DOE, NRC, and Fusion Industry Association public forum in October 2019, the NRC staff continued to characterize possible regulatory approaches to fusion reactors as being ones similar to (i) utilization facilities, (ii) materials licenses such as those related to accelerator-produced radionuclides, or (iii) a hybrid of the first two approaches or a new approach developed as part of the current activities. These alternatives still are under review. Therefore, DOE should take into account the expected NRC findings in further evaluating whether PAA needs to be modified to specifically include coverage for fusion reactors. This particularly is so because fusion reactors, if built, are more likely to be owned and operated by NRC licensees than DOE contractors. If the NRC findings are not available on a timely basis, DOE could provide further information to Congress after the December 31 deadline for the Report mandated by the 2005 Amendments.

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mandated to examine whether an inclusion of nuclear fusion installations under the revised Paris Convention may be warranted, taking into consideration, among other factors, the potential transboundary nuclear damage. A 2019 presentation to INLEX pointed out that, although a catastrophic accident scenario was not viewed as credible, the future operation of fusion facilities would result in the generation of significant amounts of low-intermediate level radioactive waste, both in terms of tritium and in terms of material activated by the operation of the reactor. INLEX was told fusion is now progressing from the academic ambit to a much more technological approach, and the quantities of radioactive substances generated by more advanced facilities will be much higher than those currently generated by existing experimental facilities. In the INLEX discussion, it was noted that the hazard posed by fusion facilities was of a different magnitude than that posed by large fission reactors, more akin to that posed by a large chemical plant or uranium mining and milling operations, which fall outside the scope of the conventions. On the other hand, it was noted that the existing conventions capture facilities of a similar level of hazard (e.g., research reactors and radioactive waste storage facilities), and that the nuclear liability system offers greater protection to victims than does normal tort law. Meanwhile, due to its use of tritium, the French authorities classified the International Thermonuclear Experimental Reactor (ITER) under construction in Cadarache, France as a basic nuclear installation ("*installation nucléaire de base*" or INB) under French national legislation; and, the ITER Organization is therefore following the French licensing process for INBs. However, France has not adopted a liability regime for fusion facilities. Additionally, the United Kingdom's Department for Business, Energy & Industrial Strategy has recently issued a report entitled, "*Towards Fusion Energy - The UK Government's proposal for a regulatory framework for fusion energy*" (Oct. 2021). It notes that there are currently no specific nuclear liability requirements for fusion operators in the United Kingdom, but that the liabilities arising from such an eventuality would be "...unlikely to have transnational boundary implications." Nevertheless, the U.K. Government is engaging in international discussions on this topic; and, aims to confirm in 2022 whether fusion should be subject to a general liability regime, what the terms of such a regime could be, and whether or how this would relate to the Paris Convention.

<sup>98</sup>Pub. L. No. 115-439 of Jan. 14, 2019, 132 Stat. 5565.

<sup>99</sup>*Id.*, §3.

<sup>100</sup>SRM-SECY-09-0064, "Staff Requirements—SECY-09-0064—Regulation of Fusion-Based Power Generation Devices," dated July 16, 2009 (ADAMS Accession No. ML092230198),

**24. Should the PAA be modified to address any environmental justice or equity and inclusion issues that may be associated with the implementation of the PAA, or the administration of claims covered by the PAA? If so, describe the modification and explain the rationale.**

There is no apparent reason why the PAA should be modified to address any environmental justice or equity and inclusion issues<sup>101</sup> that may be associated with the implementation of the PAA, or the administration of claims covered by the PAA. As noted *supra*, the PAA already contains detailed provisions to protect and provide a level of assurance concerning compensation in the event of a nuclear incident in connection with a DOE activity to all people, regardless of race, color, national origin, or income.<sup>102</sup> Furthermore, and in any case, Executive Order 12898, by its terms, does not appear to apply to PAA indemnification. The Order explicitly provides that it does not “...create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person.”<sup>103</sup>

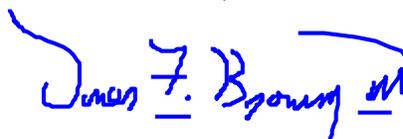
**IV. Conclusions**

For the reasons stated herein, the *ad hoc* Energy Contractors Price-Anderson Group submits DOE should present to Congress a report that strongly recommends continuation (with above-described modifications and clarifications) of the nuclear hazards liability protection provided by the Price-Anderson Act.

Attachments A and B

Respectfully submitted,

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<sup>101</sup>The legal basis for incorporating environmental justice in DOE operations is Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which was signed by President Clinton on February 11, 1994. 59 Fed. Reg. 7629 (Feb. 16, 1994) [herein-after cited as Executive Order 12898]. “Environmental justice” is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

<sup>102</sup>Where the CSC applies (*e.g.*, to DOE’s research reactors), the treaty specifically prohibits discrimination on the basis of nationality, domicile or residence. CSC Art. III.2.

<sup>103</sup>Executive Order 12898, *supra* note 101, Section 6-609.